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NEWS

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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Stories of the Week
Commercial Dealer Note
Salesmen: Stick Out Your Chests!
We're In a Minority
Spaling Bad Evahwhah
Our Wisest Man
Relax and Enjoy
Add Newspaper Boners

Stories of the Week

Yul Brynner, who starred in the Broadway hit, "The King and I," and in Cecil B. DeMille's screen Biblical epic, "The Ten Commandments," didn't take stardom for granted.

When balding Brynner transposed his activities to the West Coast he requested, and obtained, a transfer from New York's Local 802, American Federation of Musicians, to Local 47 in Hollywood—as a guitar player.

"Boss, you better gimme a raise."

"Why?"

"Three big utilities are after me."

"Zatso? Who?"

"Telephone, electric power, and gas."

Father fell asleep behind his paper after dinner. Noting the unaccustomed silence, mother returned from her kitchen apprehensively.

Believe it or not, her five-year-old and seven-year-old were sitting silently, hands folded. Mother whispered congratulations to her tinies, and hoped they wouldn't awaken father for awhile yet.

"Course not," whispered back Bobbie. "We're waiting for him to jump and howl when that cigarette burns down to his fingers."

"Selling," claims Indiana Telephone News, "is a little like hawg callin'. It ain't the noise you make, it's the appeal in your voice."

Commercial Dealer Note

MEMO TO: George F. Taubeneck
FROM: C. Dale Mericle

Paul Garthe, veteran Traverse City appliance, commercial refrigeration, and air conditioning dealer, is convinced he has answer to problem of open cases and refrigerated shelving for food stores.

"It would be a much simpler refrigeration job," he claims, tongue in cheek, "to cool the entire store down to 35°, with a separate 0° room for frozen foods."

While Garthe would naturally

(Concluded on Page 8, Col. 1)

Refrigerator Parts Excise Tax Repeal Getting a Hearing

WASHINGTON, D. C.—There is a chance that repeal of Federal excise taxes on all refrigerator parts may be recommended by a House Ways and Means subcommittee which held meetings last week to consider numerous excise tax proposals.

It was reported here that the technical staff of the excise division of the Bureau of Internal Revenue had made a recommendation to the committee that the refrigerator tax be removed.

3 New Barkow Units Convert to Home From Commercial

MILWAUKEE—Aug. G. Barkow Mfg. Co., Inc. has announced the development of new 2, 3, 5, and 7½-ton "Weatherwise" air conditioners.

The company also announced a new air-cooled condenser assembly which is used in conjunction with its Weatherwise air conditioners from 2 through 5-ton capacity, and a new Weatherwise air conditioner known as the STR-2 and STR-3 2 and 3-ton capacities) which are complete condensing units for remote outdoor installations.

Describing the 2, 3, 5, and 7½-ton models, the company said the 2 and 3-ton units are

(Concluded on Page 25, Col. 1)

Charles J. Gibson, Sr. Retires from Gibson

GREENVILLE, Mich.—At a meeting of the board of directors of Gibson Refrigerator Co., Charles J. Gibson announced his retirement from the organization, effective Feb. 29, 1956.

The board of directors elected Frank S. Gibson, Jr. chairman of the board, Charles J. Gibson, Jr., president, and Albert M. Gibson executive vice president and secretary.

John F. Bolger and H. E.

(Concluded on Page 4, Col. 5)

Bohn Promotes Aylward To General Sales Mgr.

DETROIT—Terry W. Kuhn, executive vice president, Bohn Aluminum & Brass Corp., has named Richard C. Aylward as general sales manager.

R. C. Aylward

Aylward comes to Detroit from Chicago, where he was manager of Bohn's midwest region, embracing Chicago, Milwaukee, St. Louis, Minneapolis, and Moline.

Aylward graduated from Chi-

(Concluded on Page 25, Col. 4)

Wiring Group Says 63% of Rewiring Jobs Boost Sales

CHICAGO—A plea that electrical appliance manufacturers urge dealers, in product presentations, to support adequate wiring promotions was voiced at the 12th annual National Adequate Wiring Conference held here recently.

Also presented at the conference were results of a survey indicating that adequate wiring programs substantially increase sales of major appliances.

One of the speakers at the meeting was E. B. Brant, residential sales supervisor for Florida Power Corp. Noting that he recently attended several 1956 product showings by manufacturers, Brant said that not at any of these presentations were dealers urged to support adequate wiring programs.

Results of a survey made by United Illuminating Co., New Haven and Bridgeport, Conn., in connection with its adequate wiring program, were reported

(Concluded on Page 25, Col. 4)

Conditioning Outlets Seen For Chicago Building Code

CHICAGO—"Maybe not in the next building code, but surely in the one following, we will have to make definite provisions for air conditioning receptacles," William P. Hogan, chief electrical inspector for the city of Chicago declared at the recent Better Wiring Conference here.

Hogan also indicated that there might well be a need for a separate circuit for home laundry appliances.

The conference, sponsored by the Electrical Association, a local group, also heard L. E. Pierron, manager of general service for the Commonwealth Edison Co., announce that the utility has adopted the 100-ampere service entrance as standard for single family homes.

F. E. Howell Resigns Crosley and Bendix Post

CINCINNATI—F. E. Howell has resigned as vice president and director of sales for the Crosley and Bendix Home Appliances division of Avco Mfg. Co., it was learned here last week.

Howell's leaving the Crosley and Bendix setup followed close upon the resignation of Parker H. Ericksen, who had been executive vice president of the division since 1953. Howell joined Crosley last year, coming from Kelvinator.

It was reported that William McDonough, vice president in charge of advertising and sales promotion, and Herbert Allen, merchandising manager for electronics, will take on additional sales and merchandising duties.

Calif. Area Cooling, Sheet Metal Men Plan Single Assn.

SAN BERNARDINO, Calif.—A meeting looking forward to formation of a strong association uniting sheet metal, refrigeration, and air conditioning contractors in the San Bernardino-Riverside area was held recently.

More than 50 contractors attended the meeting despite a bad storm.

Tom Topham, Tri City Climate Control, presided, assisted by Elmer Hill, Refrigeration Equipment & Supply, and Don McGarry, Base Line Sheet Metal. Henry B. Ely, executive secretary of the Refrigeration & Air Conditioning Contractors Association of Southern California, was a speaker, the announcement said.

FTC Holds Hearings On Dairy 'Giveaway' Charges vs. 8 Firms

WASHINGTON, D. C.—The Federal Trade Commission recently held two more hearings on its charges against eight major ice cream companies of unfair methods of competition in the sale and distribution of ice cream and related frozen products.

A hearing was held Feb. 28 in Phoenix, Ariz. on complaints against Carnation Milk Co., Los Angeles; The Borden Co., New York City; and Arden Farms, Los Angeles.

Another hearing was conducted March 1 in Los Angeles in the Carnation and Arden Farms cases and also on complaints against Beatrice Foods, Chicago, and Foremost Ice Cream Co., Jacksonville, Fla.

Other companies against whom the charges have been made are National Dairy Products, New York City; Pet Milk Co., St. Louis; and Fairmont Foods Co. located in Omaha, Neb.

The charges primarily involve alleged unfair competition through the giving or leasing of refrigeration equipment to retail outlets, it was further reported.

Bohn Buys Betz Assets In Move To Diversify

Heat Transfer Equipment Mfr. Will Operate as Div.; Expansion Planned

DETROIT—Bohn Aluminum & Brass Corp. here announced Feb. 29 that it had acquired the assets of the Betz Corp. of Hammond, Ind., manufacturer of lines of heat transfer equipment for the commercial refrigeration and air conditioning industry.

Bohn's president S. D. Den Uyl said the move was part of a company plan of expansion and diversification. Betz Corp.'s products closely parallel Bohn's product lines for the air conditioning and refrigeration industry.

The new facility, which includes two manufacturing plants in Hammond, will be operated as a division of Bohn.

Betz was formed in 1933 in Chicago as the Midwest Chemical Co., and changed its name and located in Hammond in 1937. It was there that the firm, headed by Lyman Betz, began the manufacture of forced convection cooling units and other

(Concluded on Back Page, Col. 1)

G-E Names Hirschbach To New Residential Post

BLOOMFIELD, N. J.—Lawrence H. Hirschbach has been appointed manager of marketing for General Electric home heating and cooling, according to F. J. VanPoppelen, general manager of the department.

Hirschbach

Hirschbach was formerly manager of builder and modernization sales.

In the heating industry since 1933, Hirschbach has served with Fitzgibbons Boiler Co. of New York as sales representa-

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Detroit Contractors Seek Strong Setup To Meet 'Jurisdictional' Problems

DETROIT—Plans of the Refrigeration & Air Conditioning Contractors Association of Detroit for an expanded program to help contractors solve mutual problems were outlined at an open meeting held recently at the Detroit-Leland hotel.

Some 40 contractors and servicemen in the Greater Detroit area turned out for the meeting. They were told that only through a strong organization can many of their problems be solved.

Officers and speakers at the meeting discussed common problems facing refrigeration and air conditioning contractors today, and outlined association objectives aimed at meeting these problems.

These objectives include a sound labor relations program, a coordinated public relations program, a government relations program, an apprentice training program, an improved code of ethics, and collection and distribution of statistical data in the field.

Air conditioning, the Detroit contractors were told, has grown in volume from one-half billion dollars to over $2 billion in the last six years and "it's here to stay."

But, it was pointed out, no longer is air conditioning equipment distributed exclusively through refrigeration contractors. Now, some distribution is also through plumbing contractors, electrical contractors, warm air heating contractors, sheet metal contractors, and others.

There's nothing wrong with that, in itself, it was stated. This is a healthy sign of public acceptance and not to be criticized, for the more people talk air conditioning, the more will be sold.

However, the group was told that "a serious secondary result has now developed" in that there is a "concentrated and powerful move by other trade and labor organizations to claim jurisdiction."

"The refrigeration and air conditioning industry will lose its identity as such unless we gain strength and work together" to influence, "for good," such matters as code considerations and jurisdictional decisions, which could result in increased costs to the public," the Detroit group was told.

Robert A. Sullivan, executive secretary, emphasized the importance of group strength and collective thinking to accomplish objectives and solve common problems.

In outlining association objectives, he said the group plans to establish a coordinated public relations program, making use of newspapers, the "yellow pages," etc., and involving use of an association seal.

Sullivan said the association program also aims to make the group an effective instrument for constructive action in both government and labor relations. Another objective is a joint apprentice training program conducted with city and union cooperation.

In addition, the group intends to formulate a code of ethics "that will mean something" and advertise it to the public, according to Sullivan. The association also plans to set up a grievance committee.

A further objective, he stated, is to collect and consolidate statistical information relating to work and make it available to members.

Sullivan said the group intends to have effective committees to deal with the various contractor problems.

Some 15 new members were added to the association at the meeting, it was reported.

Small Business To Get 'Fair Share' of Federal Contract Awards by VA

WASHINGTON, D. C.—Many Veterans Administration contracts will now be set aside for exclusive competitive award to small businesses in the latest step by the government to see that the small businessman is not left out in the cold on Federal contracts, it was reported recently.

The VA and Small Business Administration announced a joint policy to assure "the little fellow" a fair share of VA business. That agency now spends some $200 million a year for goods and services.

More than 50% of VA orders already are going to small concerns, it was pointed out.

The agreement between the Federal agencies provides that centralized purchase requirements, with an estimated value of $5,000 or more, shall be reviewed by representatives of each for set-aside action in favor of small companies. The SBA also will supplement the VA Bidders List with names of qualified concerns registered with it.

Similar joint programs have been set up between SBA and the Defense Department, General Services Administration, and Agriculture Department, it was added.

Airtemp Conditioning Course Attended by 21 AF Base Personnel

SHREVEPORT, La.—Twenty-one Barksdale Air Force Base personnel, seven airmen, and 14 civilians, attended a 2-day school course given recently by the Airtemp Institute of Refrigeration & Air Conditioning at the Capt. Shreve hotel, it was announced.

Purpose of the course designed primarily for Barksdale personnel was to familiarize air conditioning workers of the 805th Installations Sq. with current equipment and further their technical knowledge.

A certificate presented to all who attended qualifies them as Airtemp air conditioning specialists. The major portion of Barksdale's air conditioning equipment is produced by Chrysler Airtemp, it was pointed out.

Airtemp dealers and representatives from the local area including Joe Morrissey, factory service engineer from the New Orleans district, also attended the meeting. Design engineers and education and public relations department representatives from the Airtemp Dayton plant were likewise present.

The course was sponsored by the local dealer, Robinson's Air Conditioning & Heating Co., and the area distributor from Monroe, La., and the Ark-La-Tex Engineering Co.

whether it's Summer
. . . Winter
The ALL-SEASON
WINTERSTAT
with the KRAMER
UNICON
makes the operation of an air conditioning system fully automatic at any outside temperature
UNICON plus Kramer's patented Winterstat now gives you the ALL-SEASON UNICON — the only air-cooled condensing system providing predetermined minimum head pressure all the way to the expansion valve.
High Noon. . .
or cool of evening
KRAMER TRENTON CO. • Trenton 5, N.J.

For more information about products advertised on this page use Information Center, page 20.

RACCA, Pipe Trades Committees To Urge Calif. Course Changes

SANTA BARBARA, Calif.—The Refrigeration and Air Conditioning Joint Apprenticeship Committee of Los Angeles and Orange Counties recently joined with the statewide Pipe Trades Joint Apprenticeship Council composed of plumbing, pipe fitting, and steam fitting representatives.

This first affiliation of refrigeration and air conditioning representatives took place at a statewide meeting held here. Representing the Refrigeration and Air Conditioning group were Henry B. Ely and Gene Ballard, chairman and secretary, respectively, of the Refrigeration and Air Conditioning Joint Apprenticeship Committee.

Among the subjects discussed was the need of re-writing the present outline for the refrigeration and air conditioning courses now given in the school system. This is made possible by statewide affiliation since requests to the state for development of school training courses for apprentices must come from a statewide committee.

Talks were given by Wallace Theilman of the California Board of Education and Joseph Phillips, apprentice coordinator from the UA office in Washington, D. C.

January Sales Show Good Rise In Pennsylvania Area

JOHNSTOWN, Pa.—Generally increased sales of major appliances during January were reported by dealers in the western Pennsylvania territory served by the Pennsylvania Electric Co.

The utility's report of residential electric appliance sales for January showed air conditioners up 60%, clothes dryers up 72%, automatic washers up 42%, dishwashers up 37%, ranges and conventional washers each up 21%, and home freezers up 6% over January, 1955.

Combination refrigerator freezers were reported separately for the first time this month so no comparisons could be made with last year. However, the utility said dealers sold 456 of the combinations and 935 standard refrigerators during the month.

Dealers in the utility's territory sold 425 freezers, 686 ranges, 953 clothes dryers, 1,314 automatic washers, 1,420 conventional washers, 81 dishwashers, and eight air conditioners in January.

Banks-Miller Named Airtemp Distributor

HUNTINGTON, W. Va. — Naming of Banks-Miller Supply Co. here as wholesale distributor for Airtemp air conditioning and heating products has been announced.

Banks-Miller Supply will handle Airtemp's entire line of commercial "packaged" air conditioners, residential air conditioners, furnaces, and room air conditioners.

Muskegon Piston Ring, Rotary Seal Merge

CHICAGO—Merger of Muskegon Piston Ring Co., Muskegon and Sparta, Mich., with Rotary Seal Co. here has been announced by officials of both companies.

Muskegon Piston Ring acquired the assets of Rotary Seal in exchange for 105,000 shares of Muskegon common stock. Rotary will operate as a division of Muskegon at its present address.

Rotary Seal, which was established in 1931, makes shaft seals. Its sales last year were estimated at $2.2 million by the firm.

Muskegon manufactures piston rings, sealing rings, and other light cast iron, bronze, and sintered metal parts. For the eight months ended Aug. 31, 1955, its sales totaled $6,892,427, the company said.

Mid-N.Y. RSES To Cover Home Conditioning At Meeting March 14

SYRACUSE, N. Y.—An extensive report on residential air conditioning methods will be the subject of a dinner meeting of the Central New York Chapter of the American Society of Refrigerating Engineers on March 14 at Drumlins Country Club, Syracuse.

The speaker, Alwin B. Newton, vice president, design and research, The Coleman Co., will speak on "The Year-Around Air Conditioning of New or Existing Residences Using Gas or Electric Power." His talk will be illustrated with 20 slides of air conditioning systems installed in homes.

Reservations for the meeting should be made with J. W. Stevens, program chairman, 1425 Erie Blvd., E., Syracuse 3, N. Y.

NFFLI 'Western Locker' Deal Canceled

ELIZABETHTOWN, Pa.—The National Frozen Food Locker Institute has announced the cancellation of its plans to publish *Western Locker* magazine, a regional publication which it recently purchased.

This change in plans was brought about when it was learned of the existence of a contract entered into with the publishers of *Frozen Food Center* magazine five and one half years ago, which prohibits the NFFLI from undertaking a publishing venture for a period of 10 years from that agreement date.

The contract was entered into at the time of *Frozen Food Center's* purchase of *Locker Operator,* a magazine published by the former National Frozen Food Locker Association, it was added.

Wagner Tool To Move To Modern Fla. Plant

LONG ISLAND CITY, N. Y.—Wagner Tool & Supply Corp. here is moving to Hialeah, Fla., and building a modern assembling and shipping plant all on one floor.

The company is a pioneer in the refrigeration and air conditioning parts industry, it was stated.

The new location is 1020 E. 15th St., Hialeah.

"The spacious structure will be built as per plans designed and perfected over the years," the company said. "It will feature an all-on-one floor operation.

"This innovation of having laboratory facilities, plus loading and shipping patforms in this unique building plan will allow for a first in automation in the refrigeration tool manufacturing industry."

HERE'S THE MUELLER BRASS CO.
cavalcade of champions
the best performers
in the refrigeration
and air conditioning field!
1956 promises to be the biggest year ever in the field of sports. There'll be the spectacular Olympic games with athletes from all over the world in competition. Here at home a brilliant hockey season is coming to a close . . . baseball will soon take over . . . spring football practice will get underway . . . and there will be new records set in golf, tennis and every other competitive sport. In every field of sports, there will be champions . . . and in the field of refrigeration and air conditioning, the winners and still outstanding champions are Mueller Brass Co. products . . . driers, strainers, liquid indicators, fittings and valves. See them at your wholesaler's—get the champions on your team.
MUELLER BRASS CO.
PORT HURON 9, MICHIGAN

'Kelvinator-Land' Sales Promotion Includes Kit, 'Appraisal Trade-In Gift'

DETROIT — Kelvinator's spring sales promotion program will feature a strong Disneyland tie-in called "Kelvinator-Land," according to plans announced by W. E. Saylor, director of advertising and sales promotion.

The entire program, now being presented to dealers throughout the country, was outlined to distributor and zone principals by Kelvinator sales executives during a recent series of regional meetings.

"Our spring promotion marks the strongest Disneyland tie-in since Kelvinator became a sponsor of the television show last year," Saylor said.

"We want to take every advantage of the tremendous exposure of Kelvinator products during Disneyland commercials by providing our dealers with appropriate identification. The program has been consistently ranked among the top shows with a high percentage of the viewing audience."

One of the top promotions during "Kelvinator-Land" is the "appraisal trade-in gift" plan that has proven to be a profitable big-ticket sales clincher, it was stated.

Sales Closes Could Run To 3 Out of 5

"This plan when tested in certain areas indicated sales 'closes' could run as high as three out of five prospects," the company said. "Purpose of the new plan is to build pre-selected floor traffic, rather than mass traffic.

"Dealers offer free gifts to homemakers who agree to an appraisal of their present appliance. A time limit is set for how long the appraisal offer stands.

"All advertising methods can be employed in the promotion of the plan. Free gifts vary from a set of six serrated steak knives and three-piece carving set to a hammered aluminum ice bucket."

Dealer Store Display Keynotes Program

Keynoting the program is the "Showmanship Kit," a set of dealer floor display materials containing 54 pieces of colorful store and appliance trim. It includes two large banners for store or window, a new Kelvinator illuminated plastic sign, and many other display pieces in a carnival-designed Disneyland theme.

The entire display takes little more space than actual appliances because most of the banners, danglers, and cards can be attached above or on top of the models, it was noted.

To strengthen its color program this year, Kelvinator has developed a new training manual for dealers in a program called "Appliances Sell Better With Color." The color manual contains a sample color selector with eight color plates closely matching the actual Kelvinator colors.

Other sales training materials include three sound slide films demonstrating the "Foodarama," 1956 refrigerators and ranges. Training booklets contain the films' messages for easy reference by dealers and salesmen, it was noted.

Philco-Los Angeles Forms Conditioner, Freezer Dealer Service Handling Div.

LOS ANGELES — Philco-Los Angeles recently announced the formation of an Appliance Specialty Div. to handle air conditioners, freezers, and other products.

Walter Ostman, Philco Branch general manager, said the purpose of establishing this special division "is to give Philco dealers better service, more individual attention and a greater variety of merchandising assistance in the sales of Philco appliances."

The division will sell the following Philco products: Radios, phonographs, "Hi Fidelities," electric blankets, electric ranges, freezers, air conditioners, and Dexter automatic washers and dryers.

There will be two sales supervisors: Max Goodman, who will be responsible for Philco radios, phonographs, Hi Fidelities, and electric blankets, and Bart Hentschell, who will direct the sale of appliance and laundry equipment.

The newly-formed sales staff will consist of Stan Lindenbaum, Bill Hawkins, Walter Wickert, and Myron Blackman.

"This new division is the direct result of an experiment started by Philco last year," it was explained. "In 1955, Clarence Knapp was appointed air conditioning specialist to handle only the sale of air conditioners to Philco dealers.

"This specialist approach proved so successful in assisting Philco dealers to sell air conditioners that this Appliance Specialty Div. was formed to provide even greater flexibility.

Rozek Snubs Baseball For Amana Position

AMANA, Iowa — Richard L. (Dick) Rozek, former pitcher for the Cleveland Indians and the Philadelphia Athletics, has retired from professional baseball to join the sales executive training program of Amana Refrigeration, Inc., according to the company.

Rozek, who was to have joined Buffalo in the International League, a Detroit Tiger farm team, for the coming season, will spend the next two years learning all about producing and marketing Amana freezers, freezer-plus-refrigerators, and air conditioners, the company announced.

At the conclusion of on-the-job training, Rozek will be assigned to one of the company's regional sales positions, it was added.

Gibson Officers--

(Concluded from Page 1, Col. 2)

Greene, directors of long standing with Gibson, will remain on the board of directors.

Deane B. Loftus was elevated to treasurer and assistant secretay.

Other officers are J. L. Johnson, S. E. Sweet, Homer E. Rosebrook, C. M. Tipton, and W. C. Conley, all vice presidents.

Said C. J. Gibson, Jr.: "With the retirement of my father, Charles J. Gibson, Sr., we took action as recommended by our major stockholder, Hupp Corp. It is their wish that Gibson operate as an independent and continue with our plans, policies, and distribution pattern."

The new president added: "Gibson's affiliation with Hupp Corp. gives us added strength in all phases of our business which will enable us to expand on our future program."

Let Bundyweld help you profit from the automotive air conditioning boom!

WHY BUNDYWELD IS BETTER TUBING

Bundyweld starts as a single strip of copper-coated steel. Then it's . . . continuously rolled twice around laterally into a tube of uniform thickness, and passed through a furnace. Copper coating fuses with steel. Result . . . Bundyweld, double-walled and brazed through 360° of wall contact.

← NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

For more information about products advertised on this page use Information Center, page 20.

Frigidaire Steps-Up Production, Reaches Record Employment

DAYTON — Employment at Frigidaire recently reached a new all-time high with more than 23,600 men and women on the job, according to Mason Roberts, vice president of General Motors Corp. and general manager of Frigidaire Div.

He said that hundreds of new jobs have been created in recent weeks in a general stepping-up of production to meet public demand for 1956 products.

At the same time Roberts announced there has been a significant expansion of the division's engineering and research program. Floor space devoted to engineering research has nearly tripled in less than three years.

Frigidaire now has more than 1,000 engineering employes.

'Housepower' Plan Will Try To Up-Grade Inadequate Wiring In 20 Million Homes

NEW YORK CITY — More than 20,000,000 American homes, in which modern electrical appliances are being constantly added, have wiring facilities that are obsolete and under capacity.

That statement was made here by E. O. George, chairman of the wiring committee of the Edison Electric Institute in announcing the Institute's comprehensive plans for a nationwide publicity campaign for adequate wiring in American homes.

Centered around the theme of "Housepower," the program will have next May as its initial target date, and the up-grading of home wiring to "take maximum advantage of low-cost electricity for better living" as its goal, it was announced.

The program objective is to impress homeowners with the need for modernizing their house wiring to meet new demands created by the addition and use of an ever increasing number of modern electrical home appliances.

B. L. England, president of the Atlantic City Electric Co. and a past president of the EEI, said that average use of electricity in American homes had more than doubled in the past ten years, and is expected to double again by 1965.

The principal reasons impelling homeowners to re-wire inadequately wired homes are (a) the purchase of additional appliances, (b) home remodeling, and (c) added convenience. The air conditioner, electric range, clothes dryer, and water heater are among appliances more directly causing re-wiring to be done, England said.

The hard core of this campaign is a concentrated schedule of advertisements to appear in *Better Homes & Gardens*. The advertising agency of Fuller & Smith & Ross has been retained as counsel for the campaign.

Present plans also call for use both of Dave Garroway's "Today" and Arlene Francis' "Home" NBC network TV programs to help carry the better wiring drive to American homeowners.

In addition to print and air media support, EEI plans a national "Housepower" contest for homeowners. The contest will run from May through September, 1956, and will offer winners hundreds of appliance merchandise prizes and a $10,000 cash grand prize.

Amana Announces Sales Executive Training Program

AMANA, Iowa — To develop new sales and merchandising executives from a selected group of topnotch college graduates, Amana Refrigeration, Inc., has set up a Sales Executive Training Program, it was announced recently.

The two-year program will give Amana executives a first hand knowledge of all phases of the company's operation—in the factory, home office, and field. Participants in the program will be recruited yearly from among outstanding college and university graduates, the announcement said.

J. A. Rishel, Jr., general sales manager of Amana, explained that the Sales Executive Training Program will serve a double purpose: in addition to acquainting future executives with the complete Amana operation, from manufacturing to servicing and selling, it will give the company an opportunity to judge a new employe's aptitude for assignment to a particular department.

New employes selected for the Executive Training Program will spend approximately two months in the factory, two months in each of several key departments including engineering, sales, advertising, service, purchasing, and market research, and three months in the field working with Amana regional sales managers and the firm's dealer development managers.

At the end of his training period the new employe will be assigned to the department for which the Executive Training Course has shown him to be especially suited.

Break Ground for New Chicago Office Building For Harry Alter Co.

CHICAGO — Ground was broken for a new office building of the Harry Alter Co., refrigeration equipment parts wholesaler here.

It will be a two-story structure, located at 1717 S. Wabash Ave., and will house the general offices of the compay. It is adjacent to Alter's Chicago warehouse.

The new building will be equipped with sound-proofing, high level fluorescent lighting, and air conditioning. This will be the second commercial installation of the new G-E Weathertron Air-to-Air Heat Pump installation in the city of Chicago, Alter said.

For 20 years—the leading tubing in the automotive and refrigeration industries, Bundyweld is ideally suited for new application which includes both fields

Automotive air-conditioning sales climb daily. Experts see the sale of 500,000 air-conditioned cars a year just around the corner. The boom is under way.

Naturally, you're drawing a bead on this new business. And one good way of getting your share is to offer a reliable, trouble-free air-conditioning system. One way to be sure that system will be reliable is to specify Bundyweld Tubing—as famed in the refrigeration industry as it is in the automotive industry.

For instance, did you know that Bundyweld's ability to tame escape-minded refrigerants has made it the standard of the refrigeration industry for over twenty years? Did you know that the refrigeration industry uses about 1,000,000 feet of Bundyweld daily for its compressors, condensers, evaporators, connector lines, and other refrigeration tubing parts?

Of course, we back up the world's most dependable small-diameter tubing with unexcelled fabrication facilities and a staff of expert engineering specialists—plus custom packaging of your orders; prompt, on-schedule deliveries and the bulldog-like tenacity of working with you until any tubing problem is cracked. Call, write, or wire for information or for help with your air-conditioning problem.

BUNDY TUBING COMPANY
DETROIT 14, MICHIGAN

BUNDYWELD TUBING®

DOUBLE-WALLED FROM A SINGLE STRIP

Bundy Tubing Distributors and Representatives: *Cambridge 42, Mass.:* Austin-Hastings Co., Inc., 226 Binney St. • *Chattanooga 2, Tenn.:* Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • *Chicago 32, Ill.:* Lapham-Hickey Co., 3333 W. 47th Place • *Elizabeth, New Jersey:* A. B. Murray Co., Inc., Post Office Box 476 • *Los Angeles 58, Calif.:* Tubesales, 5400 Alcoa Ave. • *Philadelphia 3, Penn.:* Ruton & Co., 1717 Sansom St. • *San Francisco 10, Calif.:* Pacific Metals Co., Ltd., 3100 19th St. • *Seattle 4, Wash.:* Eagle Metals Co., 4755 First Ave., South *Toronto 5, Ontario, Canada:* Alloy Metal Sales, Ltd., 181 Fleet St., E. • Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

AIRO stands for

Fast, dependable, world-wide service.

Refrigeration and Air Conditioning parts and supplies.

Write for current Catalog

AIRO SUPPLY CO.
2732 N. Ashland Ave., Chicago 14, Ill.

For more information about products advertised on this page use Information Center, page 20.

Hidden Dangers of Price Cutting

Unrealistic Pricing, Poor Inventory Control, No Measure of Operating Costs—These Lead to Business Failure, Expert Says

CHICAGO—"Every management should have constantly before its eyes this question: Is our current sales-inventory relationship getting out of balance?

"As one answer to this question, I recommend the use of month-to-month ratios of sales to inventory (both expressed in dollar values) which represent essentially the relation between a concurrent and a lagging series."

Richard E. Snyder, economist consultant of the National Appliance & Radio-TV Dealers Association, offered this advice at NARDA's annual convention.

How To Figure Monthly Sales-to-Inventory Ratios

"The methodology is simple," he said. "The dollar sales total for the month is divided by the inventory value at the beginning of the month, thus expressing sales as a per cent of inventory and answering the question: What per cent of our inventory did we sell last month? . . .

"If you should find that the trend of your sales-inventory ratio is getting out of line by past standards, here are nine questions you should ask yourself immediately:

"1. Are the sales of our business keeping pace with the trend or rate of sales for the industry?

"2. What is the credit position of the business itself?

"3. What is the credit position of the customers of the business?

"4. Are we avoiding duplication of orders and abnormally long commitments?

"5. What would be the effect on the inventory and profit position of the business if sales should drop 5%, 10%, 15%, or some larger amount?

"6. If certain types of merchandise are moving slowly, what are the causes?

"7. Is the merchandise priced out of line?

"8. Is it aged in the sense that better or more desirable merchandise is available?

"9. Are there any leaks in our expense structure that can be plugged?"

Conditions That Dealers Have Operated Under

In his talk, Snyder first considered some of the conditions under which the appliance dealer trade has operated in recent years.

"Let's take the year 1948 as an initial point of reference," he said. "That was a year which in many respects may be considered 'normal'. . . .

"Anyone uninformed of the true facts might well think that, with business sales in 1954 up by huge margins over 1948, the profit showing relative to sales would have been at least 'satisfactory.'

"But the facts show 'otherwise'; so much 'otherwise' that it may be astonishing to many people to learn that in nearly every industry and trade actual dollar profits in 1954 were down shockingly by comparison with 1948, and even more so in terms of percentage declines as well as in terms of profit ratios to sales. . . .

Reasons Cited for Profit Shrinkage

"Why has this condition of shrinking profits in the face of rising sales come about? A couple of the reasons are pretty obvious.

"For example, businessmen don't have to be reminded how difficult it is to make reductions in workers' pay under today's conditions. That is one cost area where they are just stuck.

So, he continued, "we come to another area that *is* open for intelligent action and discussion: the area of business practice that encompasses management policies with respect to price action and inventory control.

"After conducting nearly 20 costs-of-doing-business surveys, I've come to the conclusion that the three main causes of failure in the retail field are these:

3 Causes of Failure

"First, unrealistic pricing: second, incompetent (or nonexistent) inventory control; third, inability to properly measure and control operating costs.

"The ultimate answer to the problem lies in getting paid for what we do. . . . This sounds simple but isn't.

"The usual practice is to take the average cost of doing business and apply mark-ups that theoretically result in net profit. But it is a simple matter to get an appliance dealer to cut his price after he has set it.

"If he knew more about his cost of doing business, about his price structure, and the effect of discounted prices, he wouldn't be so ready to believe others sell for less, or that he could afford to meet the price."

Price Is Seldom Related to Profit

"Price, as it is administered by most companies, is no more than a crude means of rectifying chance scarcity and unplanned excess. It is a crude means of correcting accidents and mistakes after they have occurred.

"Rash and ill-timed price cuts, made merely to meet competition, and in defiance of high fixed operating costs, ignore the fact that the customers of a business, seeing such cuts being made, often display the nasty habit of waiting in expectation of further cuts to come.

"Moreover, random price cuts, which are often related to temporary panic and/or misjudgment of basic trends, require that sales volume be increased abnormally, if profit margin is to be maintained."

Snyder noted here that actually, "larger profits are often made on a smaller volume of sales than on a big sales volume. . . . A big sales volume per se does not insure large profits.

Snyder said sound price policy "arises from the practice of gearing sales promotion and inventory to known conditions."

NEW LIGHTWEIGHT AND

NEW 1956 CHEVROLET

For more information about products advertised on this page use Information Center, page 20.

Robert Marberry Joins Whirlpool-Seeger Corp. To Assist Jack Sparks

ST. JOSEPH, Mich. — Robert M. Marberry has joined Whirlpool-Seeger Corp. as special executive assistant to Jack Sparks, general sales manager, distribution, it is announced by John A. Hurley, vice president.

Marberry

Previously director of sales, Sparton Radio and Television Div., The Sparks-Withington Co., Marberry has had more than 20 years' experience in major appliances and electronics merchandising and sales. He will make his home here.

Lonergan Announces Coolerator Air Conditioning Products for '56

ALBION, Mich. — Lonergan Mfg. Div., McGraw Electric Co., has announced that its 1956 line of products to be marketed under the Coolerator name includes five room air conditioners, a residential cooling plant, a dehumidifier, and four window fans.

The room air conditioner line consists of ¾ and 1-hp. "Super" models and ¾, 1, and 2-hp. "Custom" units.

The ¾-hp. Super model can be flush mounted and/or adjustable mounted on 1-in. centers into the room, the company said. This unit measures 15¾ in. high, 26⅜ in. wide, and 23¹⁵⁄₁₆ in. deep. The 1-hp. Super unit is thermostatically controlled and in the same size cabinet as the ¾-hp. model.

Both the ¾ and 1-hp. Custom air conditioners "will be in the same compact cabinet as is found around the Super units," the company noted. The 2-hp. Custom model will be in a cabinet 26⅜ in. wide, 17¾ in. high, and 29¹⁵⁄₁₆ in. deep. All are window units.

The air conditioners will carry four "directional positive no draft grilles." All Custom units will have a concealed control panel with a readily accessible night light. Colors of the units will be "Autumn Brown" and "Fiesta Tan."

Lonergan said it is also announcing its new residential cooling plant, equipped with Aeroquip valves, pre-charged at the factory "making it a package unit for the do-it-yourself man."

Also being marketed under the Coolerator name is a new style dehumidifier with a ⅓-hp. compressor. In addition, there are four window fans in 20 and 24-in. sizes with pushbutton control. One model is thermostatically controlled.

York Names Distributors

CHICAGO — Appointment of three new distributors of York air conditioning and refrigeration products in the midwest were announced recently by John L. Roth, central district manager of the commercial division, York Corp.

New distributors are Co-operative Coal Co., Battle Creek, Mich.; Roth Appliance Distributors, Milwaukee; and The Sanborn Electric Co., Inc., Indianapolis.

PICTURED is the "Deluxe" 1-ton built-in wall unit made by Lewyt Air Conditioner Corp. Unit is 20 in. high, 17 in. deep, and 32-7/16 in. wide.

Lewyt Offers 1-Ton Built-In Wall Unit

BROOKLYN—Production has begun on a new built-in wall air conditioner, the Lewyt Corp. here announced recently.

A 1-ton unit, the "Deluxe" built-in is 20 in. high 17 in. deep, and 32⁷⁄₁₆ in. wide, the firm added.

Lewyt also manufactures ½ and ¾-ton built-in wall air conditioners in smaller standard line sizes of 14 in. high, 15 in. deep, and 32 in. wide.

Sutton Sales Rise In Last 3 Mos.

WICHITA, Kan.—The O. A. Sutton Corp., Inc. reported a loss of $566,353 in the fiscal year ended Nov. 30, 1955, equivalent to 47 cents per share on the 1,400,000 shares of common stock outstanding following the public sale of 300,000 shares in May, according to O. A. Sutton, president.

In 1954, earnings amounted to $1,471,277 and were equivalent to $1.02 a share on the same number of shares or to $1.30 on the 1,100,000 shares outstanding in that year.

Sales in 1955 were $24,430,993 compared with $38,018,762 in the preceding year. Sales in December 1955 and January and February 1956 have been at a high level and the company anticipates that satisfactory earnings will be reported for the quarter ending Feb. 29, 1956, it was stated.

The company's distributors and dealers have placed 1956 orders "in quantities we consider greater than our expectations," Sutton said. "I feel that other manufacturers, too, will make a strong effort to stabilize the industry and, given normal selling weather, we anticipate reasonable profits during 1956."

"During 1955 the company acquired new equipment and made marked advances in automation to increase substantially plant production rates and reduce the related costs of direct labor and overhead," said Sutton.

Adverse weather conditions during the spring-summer selling season and inventory and pricing problems common to the industry were factors which brought about the unprofitable year, Sutton said.

Despite these conditions, he said, unit sales of Vornado room cooling equipment were the highest in company history, and the introduction of new central air conditioning units contributed significantly to sales in the late months.

MIDDLEWEIGHT CHAMPS!

Just arrived...New champs of the lightweight and middleweight haulers! New Chevrolet trucks bring you higher capacities, new hour- and dollar-saving power and performance—plus new and exclusive Task-Force features!

A Modern V8 for Every Model! Short-stroke, engine-saving power in the most modern of all V8's. Standard on some models, optional at extra cost on others.

New, More Powerful Sixes! New gas-saving 6's with 8.0 to 1 compression standard on all lightweight and most middleweight Chevrolet trucks.

Wider Range of Drives! Hydra-Matic now available in even more models! Revolutionary new Powermatic and 5-speed manual shift in new 5000 and 6000 series trucks! All extra cost.

Tubeless Tires Standard on All Models! Other modern features include High-Level ventilation and concealed Safety Steps.

New, higher capacities! Many new middleweight champs are rated clear up to 19,500 lbs. G.V.W.! See them at your Chevrolet dealer's. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

CHEVROLET

TASK·FORCE TRUCKS

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

like the contract for such a job, he says he is more interested in a fur coat concession next door.

Salesmen: Stick Out Your Chests!

Contributed by "Jud" Sayre, who is in himself the personification of Salesmanship:

Mr. Salesman produces nothing, yet he greatly increases production.

He employs no one, yet he prevents unemployment.

He is not supervised, yet he is responsible for results.

He influences people over whom he has no authority.

He does much to raise the standard of living.

He is a maker of better balance sheets.

He is the man who sends in orders, pays executives' salaries, and insure dividends for stockholders.

We're In a Minority

Two scientific researchers have posed interesting theories as to the difference in the manner people wake up in the morning. Peter Siegle, psychologist for something called the Englander Sleep Foundation, classifies morning risers into seven basic types:

(1) The time stealer, who sets his alarm an hour early so he can turn it off and go back to sleep for awhile, (2) the griper, (3) the congenital grouch, (4) the time-table planner, (5) the self-starter with the built-in alarm, (6) the gadgeteer who has a variety of nudgers, and (7) the cheerful rise-and-shiner.

Very thought of having to go to work may sour a man's outlook on life in his first waking moments, say these surveyors. Or, anxiety over what the day may bring may cause him to get out of bed "on the wrong side."

If a pleasurable activity (like playing golf, for example) is planned for the day, his attitude is apt to be different. The guy who ordinarily has to be called a half a dozen times by his wife five days a week usually will bound out of bed at dawn, full of the joy of living, if he's ready for FUN.

Siegle has a suggestion for those who find it difficult to crawl out of the sack on a work day. Organize the morning into a routine, he advises. Give yourself plenty of time to dress, eat a leisurely breakfast, plan to avoid friction with associates.

But don't make your schedule too rigid, he warns, "or you will feel even more anxiety about the uncertainties of your job."

Another researcher—Nathaniel Kleitman of the University of Chicago—believes there are physical factors involved in this field. Kleitman wonders why some people are the early-bird type, some the night-owl variety, and others a combination of the two. His studies have convinced him that body temperature and blood pressure is responsible for the difference.

It's generally thought that 98.6° is normal body temperature. But it seems that your temperature rises and falls regularly between 96.7° and 99° during the day. A "high" temperature makes you peppy as all get out; when your temperature is "low," so are you.

The temperature of the early bird is highest before noon. Therefore, he's a ball of fire during the morning. But, as his temperature drops in the afternoon, he begins to loose his zip, and by evening is pretty well shot.

The night owl, on the other hand, is a slow starter. He doesn't begin to get going until afternoon, and it's night-time before he's in high gear.

Third type—lucky boy—has two temperature "highs"; one in the morning and one in the evening. Thus, he's full of beans in the morning, slows down in the afternoon, but gets his second breath at night. This type dies young.

Although we've treated this thesis cavalierly, we can vouch for its truth. A few of us work best and think best, late-day and night. And we are somewhat mollified to learn that chemistry of our blood circulation is a prime cause.

Early birds can be so intolerant!

Spaling Bad Evahwhah

British Army officials are instigating a course in spelling for recruits, after questionnaires returned by their soldiers revealed amazing ways to spell so simple and familiar a name as Germany. Among 20 different spellings were:

Jermuny, Gremany, Gurmuney, and Jemmany.

And the word flower was turned into:

Flarer, flour, and flar.

When the British G.I.'s were asked to spell kitten they came up with such gems as:

Kitton, kinten, and Kittneton.

Illnesses listed by these soldiers included chikinpots, measils, and apendesitis.

Our Wisest Man

Benjamin Franklin (whose 250th anniversary currently is being celebrated) advised:

"Clean your finger before you point at my spots."

"There are more old drunkards than old doctors."

"If man could have half his wishes, he would double his troubles."

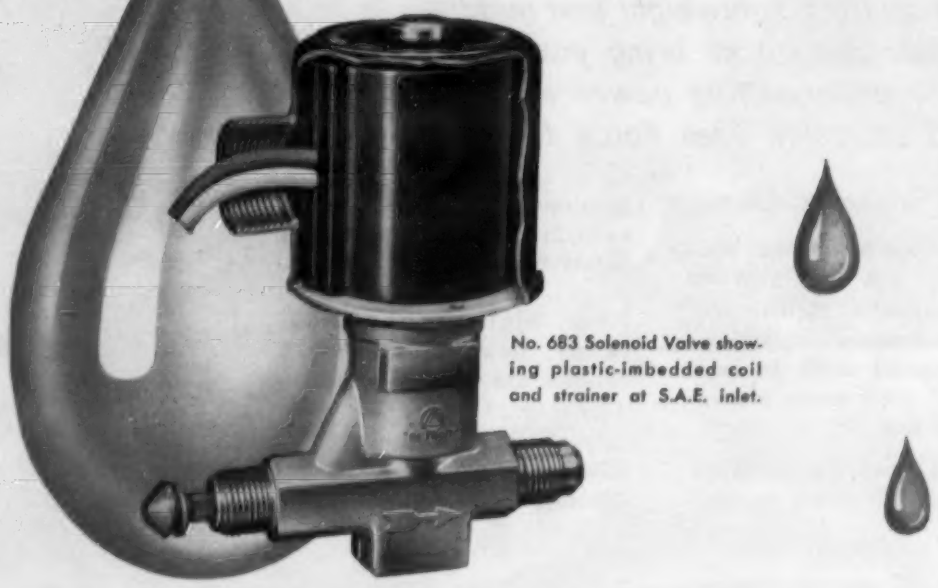
"The worst wheel of the cart makes the most noise."

"Declaiming against pride is not always a sign of humility."

"Search others for their virtues, thyself for thy vices."

"Here is my creed. I believe in one God, the creator of the universe. That He ought to be worshipped. That the most acceptable service we render to Him is doing good to His other children."

Waterproof Solenoid Valves



No. 683 Solenoid Valve showing plastic-imbedded coil and strainer at S.A.E. inlet.

DETROIT Solenoid Valves have built-in protection against moisture, dirt, leakage and noise!

- Coil imbedded in waterproof plastic.
- Strainer integral in forged brass bodies.
- Sturdy mounting boss.
- Noiseless operation . . . no A.C. hum.
- Choice of flare, sweat or pipe thread connections.
- Capacities to 5.1 tons Freon-12.

DETROIT CONTROLS CORP. supplies a complete line of controls for the heating and air conditioning industries, as well as refrigeration.

No. 681 Capacities to 8.7 tons F-12

No. 686 Capacities to 20.4 tons F-12

No. 689 Capacities to 50 tons F-12

DETROIT CONTROLS CORPORATION
6900 TRUMBULL AVE. • DETROIT 8, MICHIGAN
Division of AMERICAN RADIATOR & STANDARD SANITARY Corporation

Representatives in Principal Cities • Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES, LTD., Montreal, Toronto, Winnipeg.

AUTOMATIC CONTROLS for REFRIGERATION
AIR CONDITIONING • DOMESTIC HEATING • AVIATION • TRANSPORTATION • HOME APPLIANCES • INDUSTRIAL USES

Increase COOLING TOWER EFFICIENCY With ASPIR-JET

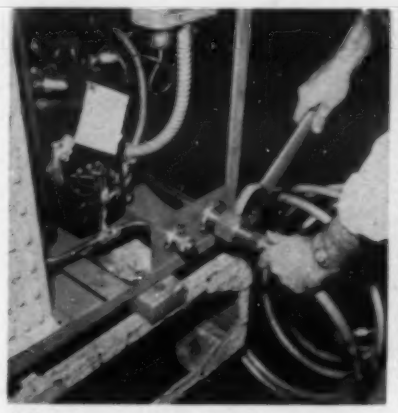
Aspir-Jet, the new spray nozzle, increases efficiency of cooling towers by increasing water break-up and improving water distribution. This is accomplished by the Aspir-Jet unique design which atomizes the water with as little as one-half pound nozzle pressure. Formed of butyrate plastic, Aspir-Jets last longer because they do not corrode. Thousands already in use are giving better cooling even with lower than normal pressures.

• Available through Refrigeration and Air Conditioning Wholesalers.

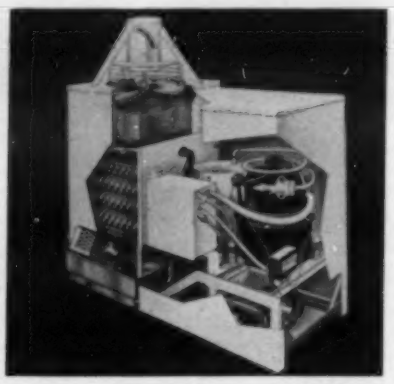
Manufacturers & Refrigeration Wholesalers: If you are not now using or stocking this astounding new product, wire or write

THERMAL AGENCY
National Sales Agents
1515 DALLAS • HOUSTON, TEXAS

For more information about products advertised on this page use Information Center, page 20.



ASSEMBLY of pre-packaged air conditioners is accomplished at the installation site by connecting the coupling halves.



CUTAWAY view of Coleman liquid chiller model "Air-Mist" condensing unit.

Coleman Offers 3 Chilled-Liquid Direct-Expansion Coil Packaged Units

WICHITA, Kan.—A new line of packaged air conditioning units using either chilled-liquid or direct-expansion cooling coils is announced for 1956 by the Coleman Co.

Both liquid-chiller and direct-expansion models will be offered in 1¾, 3, and 5-hp. sizes for remote-system residential central air conditioning. "Foolproof" installation" is a major advantage of the liquid-chiller model, in which the refrigeration cycle is completely sealed-in at the factory, Coleman says.

Units Include 'Air-Mist' Condenser

The new units include Coleman's exclusive "Air-Mist" condenser of the wet-bulb type. The wet-bulb principle utilizes the extra cooling effect of evaporation to absorb heat from the refrigeration system faster, increasing its capacity in the hottest weather and reducing the amount of electricity consumed, the company explained.

Air is brought in through grilles in the base of the unit. A fine water spray is mixed with the air, reducing the temperature as much as 40°.

The mixture of air and water is then fan-forced over the entire surface of the condensing coil, substantially reducing operating pressure.

Non-Evaporated Water Returned for Re-Use

Water not evaporated on contact with the coil is returned to a reservoir to be used again. Water consumption is about 3 gals. per ton-hour.

Air discharge is upward so that the unit may be located close to buildings and shrubbery. Both direct-expansion and chilled-liquid models include an hermetically sealed compressor with all moving parts spring mounted. All electrical controls are pre-wired.

The chiller assembly is the shell and coil type and is fully insulated with moulded air-cell plastic. The entire system is shipped fully charged and ready to operate.

With the entire refrigeration cycle factory-assembled, less technical knowledge and installation time will be required, Coleman said.

Ordinary copper water pipe will carry the chilled liquid to cooling coils employed in either wet-heat or forced warm-air heating systems.

The new packaged units are encased in electrically welded heavy-gauge galvanized sheet steel cabinets with an anti-corrosive light-gray finish of Epon plastic baked on the individual parts before assembly.

Typhoon Expansion Sets Distributor Personnel Service School Series

BROOKLYN — The Typhoon Air Conditioning Co. is currently engaged in an expansion program, and has set up a new series of training schools for the service personnel of its distributors, to effect increase efficiency in the installation and servicing of Typhoon units.

The second of these schools was held at the home office, 505 Carroll St., Brooklyn, for the benefit of metropolitan New York area servicemen. The course will be under the direction of Henry Porzio, Typhoon service manager, assisted by a group of home office executives.

Some 60 servicemen are expected to attend these shirt-sleeve sessions which, in addition to helping them to solve field service problems efficiently and economically will also enable them to meet with company executives and to gain a first-hand knowledge of factory operations.

The first Typhoon training school was held at Abe Gruber & Co., Inc., Elizabeth, N. J. These meetings are held in the evenings, 6:30 to 9 p.m., thus eliminating the waste of valuable daytime working hours.

Among the subjects to be covered at the upcoming Brooklyn clinic are: servicing of Typhoon equipment; installation and servicing of air-cooled equipment—high sides and condensers; service and operation of expansion valves and strainers; electrical control hook-ups; trouble-shooting—diagnosis and remedies; the minimizing of service by proper selection and application; distributor benefits under Typhoon's five year protection plan; and customer relations.

FIRST in the new series of Typhoon training schools was held in January at Abe Gruber & Co., Elizabeth, N. J. Shirtsleeve sessions were held at night to let servicemen work a full day. Next school was held at main office in Brooklyn, in mid-February.

Wolverine's drawn and extruded aluminum tube is available in a wide range of sizes and popular alloys in both straight lengths and coils.

Wolverine Trufin* Type L/C is a high-finned bi-metal tube that reduces heat exchanger and condenser size—steps up BTU output.

Wolverine Capilator*—individually flow-tested capillary tube for the precision metering of liquids and gases.

Wolverine Spun End Process†—a unique, one-step operation that produces a wide variety of contours with closed, or partially closed, end treatments.

Wolverine extruded aluminum shapes are rigidly quality controlled to meet customer specifications.

WOLVERINE knows BOTH ALUMINUM and the REFRIGERATION and AIR CONDITIONING INDUSTRY

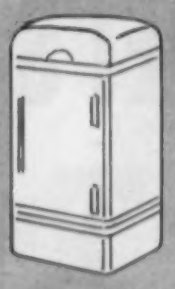
Wolverine has had years of metalworking experience—is as much at home in aluminum as it is in copper. In addition, Wolverine has grown up with the refrigeration and air conditioning industry—knows its problems from the ground up.

Wolverine's aluminum products are described above. Each is the product of Tubemanship—designed to meet specific needs—to give outstanding performance with long, trouble-free life.

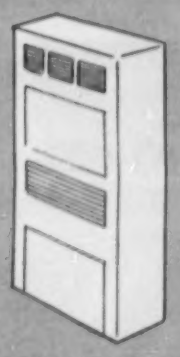
Because it knows the market so well, Wolverine has developed production techniques designed to save manufacturers time and money. An example of this is found in the Spun End Process. When spinning aluminum, Wolverine does not use a lubricant. Result: driers, receivers, strainers, and accumulators that do not require costly, time-consuming metal cleaning, before welding into an assembly.

The next time you have a call for aluminum—specify Wolverine. Reap the benefits that only wide experience can bring. Write, too, for your copies of Wolverine's Aluminum and Refrigeration Catalogs.

WOLVERINE TUBE, 1413 Central Ave., Detroit 9, Mich.

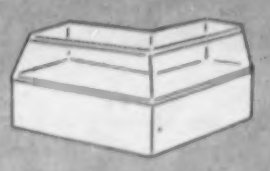


REFRIGERATORS

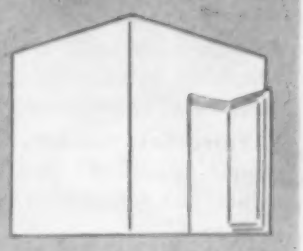


AIR CONDITIONING UNITS

DEEP FREEZERS



FREEZER COUNTERS



WALK-IN UNITS

WOLVERINE TUBE

Division of Calumet & Hecla, Inc.

MANUFACTURERS OF QUALITY CONTROLLED TUBING AND EXTRUDED ALUMINUM SHAPES

*REGISTERED U.S. PATENT OFFICE
†A PATENTED PROCESS RE. 22465

4995

Wolverine Trufin available in Canada through the Unifin Tube Company, London, Ontario.

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES

EXPORT DEPARTMENT, 13 EAST 40TH STREET, NEW YORK 16, NEW YORK

For more information about products advertised on this page use Information Center, page 20.

Kansas City, Mo. Refrigeration Industry Observes 'Engineering Week'

KANSAS CITY, Mo.—Members of the refrigeration industry in the Greater Kansas City area recently celebrated "Engineering Week" (Feb. 20-26) "by full recognition of engineering in the refrigeration and air conditioning field."

The Kansas City Section of the American Society of Refrigerating Engineers started the week by holding its monthly meeting on Monday, Feb. 20. Speaker was Jim Mulcahey of Bush Mfg. Co. who discussed "Inner-Fin Application in the Refrigeration and Air Conditioning Field."

Among industry members present was John Dube, president of Alco Valve Co. and regional director for the ASRE. He presented the Kansas City Chapter with the "Chicago Award" for the greatest increase in membership of any ASRE chapter during 1954-55.

Also present were E. L. Tramposh, president, Air Conditioning & Refrigeration Wholesalers, and G. L. "Bud" Easley, president of the Kansas City Chapter of the RSES. Easley requested any assistance the ASRE could give the RSES in regard to the 19th Annual International RSES Convention which will be held in Kansas City, Nov. 15-18.

Incidentally, it was pointed out, not only did the ASRE chapter win the increased-membership award last season, but the RSES chapter won the Mueller Award" for the greatest increase in attendance during the same period.

Mulligan Wins York Award for 4th Time

PHILADELPHIA — For the fourth time since 1949 the same York Corp. representative has won the firm's annual Hall of Fame award, the company announced here recently.

Specializing in sales to kitchen equipment fabricators, Thomas H. Mulligan achieved top honors in over-all sales performance for 1955, the announcement continued. He is a representative for Electric Products, Inc., Jersey City, N. J., York agent in the northern part of the state.

In addition to the citation certificate, Mulligan added a fourth diamond to his specially-designed York award ring.

Climaxing a day-long North Atlantic District national sales conference here was the Awards Dinner.

Equipment, Parts Service Managers See 'Trouble Anticipation' Demonstration

CHICAGO — More than 25 service managers of equipment and component parts manufacturers gathered in the Sherman hotel here, Feb. 14 for a luncheon and afternoon meeting.

The Manufacturers Service Managers' Club of Refrigeration Service Engineers Society heard and saw demonstrated "Field Service Diagnosis by Simple Chemistry." Frank J. Versagi, senior analytical chemist of Mueller Brass Co., Port Huron, Mich., showed how moisture and foreign particles trapped at screens tied-in with an analysis of desiccant in the drier can anticipate possible trouble or determine cause of failure.

Cecil Merryman, parts and service department manager of Bastian-Blessing Co., Chicago, discussed operating procedures employed in the service department of his firm.

C. Stanley Kessler, service manager, U. S. Air Conditioning Co., Minneapolis is club chairman. In addition to him, the 80-member organization's executive committee is composed of Bryant L. Britt, Wagner Electric Corp., St. Louis; Ray Thompson, O. A. Sutton Corp., Wichita; William Tyson, Carrier Corp., Syracuse; J. C. Kellner, Jr., Servel, Inc., Evansville, Ind.; and John H. Spence, Hussmann Refrigeration Co., St. Louis.

Next meeting of the group is planned for early June in Chicago.

Besides the chairman and speakers, those in attendance Feb. 14 were:

Milton Bartelt, Quicfrez, Inc.; Bryant L. Britt, Wagner Electric Corp.; Joseph R. Connors, Brunner Mfg. Co.; George S. Eager, Elec. Ref. Div., Servel, Inc.; Harry H. Erickson, RCA Service Co., Inc.; George Frie, Kramer Trenton Co.; Robert Geran, Kelvinator Div., American Motors Corp.; E. C. Hamilton, Air Cond. & Ref. Div., Worthington Corp.; J. C. Kellner, Jr., Servel, Inc.

David Lile, Airtemp Div., Chrysler Corp.; J. C. Parker, Seeger Refrigerator Co.; William Pollock, Temprite Products Corp.; W. C. Rehor, Acme Industries, Inc.; D. B. Rentschler, Sporlan Valve Co.; Max J. Schinke, Admiral Corp.; George Sedlack, Cory Corp., Fresh'nd-Aire Co.

A. C. Simmons, Ranney Refrigerator Co.; Eugene D. Snider, Freez-King, Inc.; John H. Spence, Hussmann Refrigeration, Inc.; Eugene Stegmann, United Refrigeration Co.; R. J. Thomson, Delco Products; William Tyson, Unitary Equipment Div., Carrier Corp.

Coleman Utility Training Sessions Open In Dallas, Mar. 7

WICHITA, Kan.—A series of seven regional training sessions for utility engineering and service personnel directly interested in gas air conditioning has been arranged by the Coleman Co.

The first of the schools will be held in Dallas, March 7-9, at the North Service Center of the Lone Star Gas Co.

Other scheduled meetings and cooperating gas utilities are: March 14-16, Tulsa, Okla., Oklahoma Natural Gas Co.; March 21-23, Atlanta, Atlanta Gas Light Co.; March 28-30, Columbus, Ohio, Ohio Fuel Gas Co.; April 4-6, Los Angeles, Southern California Gas Co.; April 11-13, Brooklyn, Brooklyn Union Gas Co.; and April 18-20, Des Moines, Iowa, Iowa Power & Light Co.

Clifford E. Hall, Coleman utility operations manager, described the three-day schools as 'strictly work sessions and essential to the proper introduction of the gas motor air conditioner."

He said the Coleman gas-powered unit was now in limited production.

So Halstead & Mitchell Engineers said:

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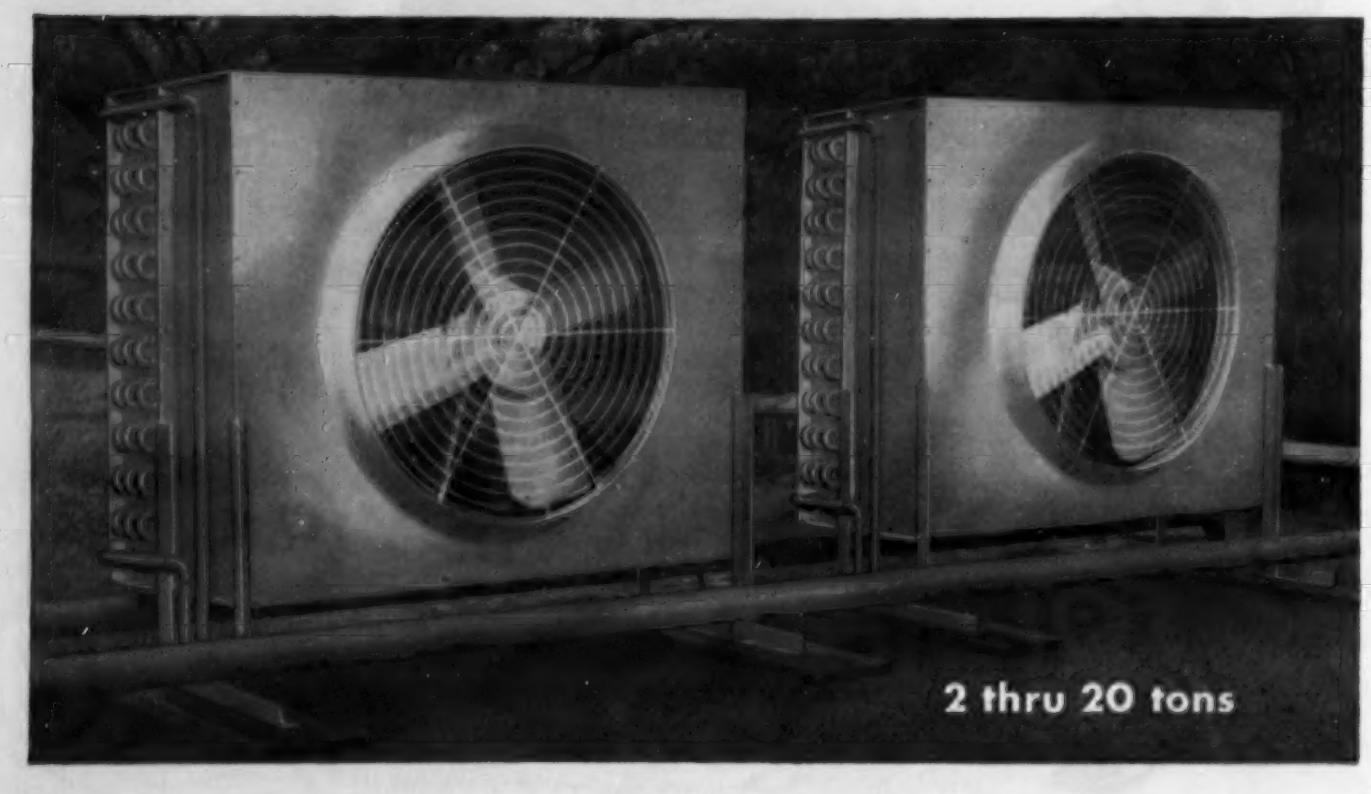

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3. Extra-Quiet Operation—which is the direct result of deep-pitch fan blades driven at slow speeds.

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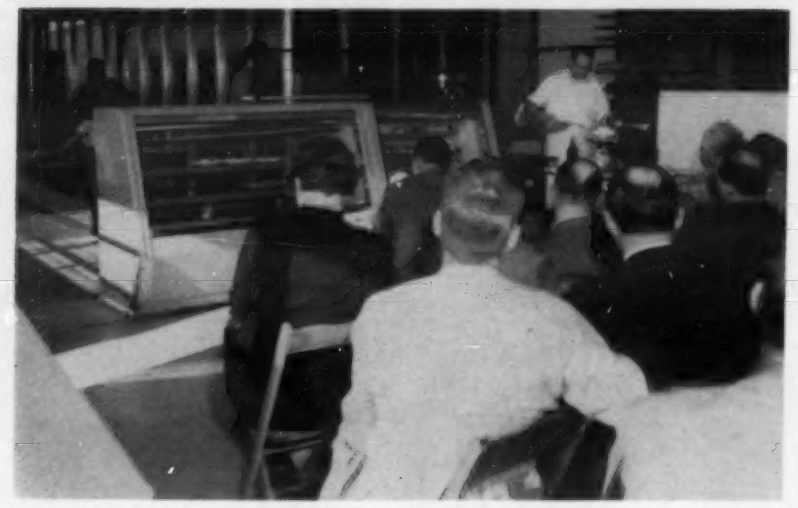

HOW TO "BAKE" a "Baked Alaska" ice cream dessert with a torch is demonstrated to Detroit area bakers by Theodore Beck, master baker from New York City.

Master Baker Tells How To Prepare, Store Ice Cream Cakes, Novelties

TROY, Mich.—A new automatic hot gas defrost display freezer, claimed to be the first of its type with automatic defrosting, was introduced to Detroit area bakers recently by the Frigid Igloo Mfg. Corp. in a full-scale demonstration.

The new case, with "Thermobank" defrost system, is designed for the display and sale of ice cream cakes, ice cream pies, frozen novelties, and whipped cream and chiffon cakes and pies. It will hold temperatures of -5° to 0° F., according to S. James Krakow, vice president of the company.

The case is offered in eight different models. It is available self-contained in 6 and 8-ft. lengths, self-contained with unit in adjacent housing in 6, 8, and 10-ft. lengths, and remote in 4, 6, and 8-ft. lengths. All cases are 50 in. high and 33 in. deep.

The case was introduced here in the new showroom of the Jentzen-Miller Co., Michigan distributor for Frigid Igloo.

Theodore Beck, master baker from New York City, pointed out to his Michigan brethren the growing market for frozen pastries and gave them recipes for popular favorites and demonstrated how to make baked Alaska and frozen parfait pies.

But "ice cream cakes are not sold from the back room," he advised. "They must be on display where people can see them. And they must be neat and clean, not sloppily made. They are an impulse item sold largely on appearance."

Big advantage to the baker in handling frozen pastries is that they have no losses in "stales," Beck pointed out. Items put in the display freezer can stay there until they are sold, with no loss in freshness or need to reduce price, he said.

Cakes and pies decorated with whipped cream, however, should not be kept more than 10 or 12 days, he advised. In that time, from the opening and closing of the case door, they will pick up odors from the bakery. But even then, he noted, all the baker need do is remove the whipped cream and put on fresh. The rest of the cake is still as good as the day it was baked.

Another advantage is that bakers can sell whipped cream delicacies in the summer time when they have a refrigerated case. The display freezer also enables them to make up special cakes for birthdays and other occasions in advance. When a customer wants one, the baker need only put on the desired message. Thus the customer can have a cake in an hour instead of ordering days in advance.

Beck said that when a customer purchases a frozen cake, she should be told that it will thaw to cutting consistency in two to two and a half hours when kept in the refrigerator.

In the east, he said, no special packaging is used, though the cake can be packed in dry ice if desired.

Beck suggested that the bakers use a cookie mix for crust rather than a regular pie crust for ice cream pies. Pie crust, he noted, develops a fatty taste after a day or two at low temperatures.

High ratio short cake, he added, should not be used for ice cream cakes. It contains an emulsifier that develops a medicated taste at 0° F.

It is better to use a butter sponge cake, which will taste and cut better after freezing.

Beck advised bakers to freeze the ice cream as hard as possible before using it. The softer it is the harder it is to work with.

He suggested that the basic ice cream cake be made on one day and put in the freezer to harden overnight before the decorations are added. Ice cream cake baking is a two-day operation, he said.

ICE CREAM TORTEN and Baked Alaska that can be displayed until sold in a display freezer are shown by Master Baker Beck to Roy L. Stephens (l.), president of Jentzen-Miller, Inc., Michigan distributor for Frigid Igloo bakery display cases, and S. James Krakow, vice president of Frigid Igloo Mfg. Corp.

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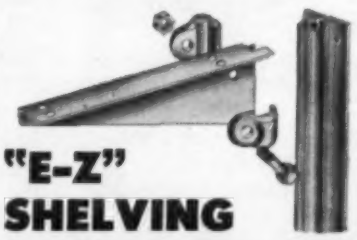

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SUPENA, PAL—WILL YOU TYPE UP THIS SCRIPT FOR THE CLUB SHOW? SIX COPIES—UH—HENRY WON'T MIND YOUR DOING ME THIS LITTLE FAVOR—WILL YOU, HENRY?
WHOSE SECRETARY IS IT? HENRY DON'T HAVE A CHANCE TO GET HIS OWN WORK OUT—
HENRY'S SO EASYGOING HE NEEDS A "NO-MAN" MORE THAN HE NEEDS A SECRETARY—
THAT STOCKROOM GUY IS THE WORST CHISELER—BUT TRY TO GET A NEW TYPEWRITER RIBBON OUTA HIM—
AN' SOMETHIN' TELLS ME HEN IS GONNA GET STUCK FOR AN AD AND TICKETS TO THE CLUB SHOW—
IT DOESN'T TAKE THE FREE-LOADERS LONG TO FIND THE EASY MARK—
THANX AND A TIP OF THE HAT(S) HAT TO BERNIE NEMLICH, PASADENA, CALIF.
JIMMY HATLO

Lowering Decibel Levels In Factories

More and more companies now are including a hearing checkup with the other standard pre-employment medical tests they require of associates. It's a reflection of the increasing noise-consciousness among employers across the country, and the rising tide of sound which accompanies the swing to further automation and mechanization.

Eleven months ago we editorialized against "Industry Noise," and with good reason. U. S. industry is spending an estimated $100 million annually to try to provide workers with more peace and quiet at their jobs. Dollars and cents motives lie behind this concern over noise.

Growing number of employe compensation claims for occupational deafness is a case in point. In New York State, for example, the law provides a schedule of payments for occupational hearing loss which can run as high as $5,000 per employe. Employers in Wisconsin, whose compensation laws cover hearing loss, already have settled claims totaling $300,000 in the past few years.

Thus, many manufacturers are finding they must engineer sound-squelching systems into the products they make. Noise control cuts worker fatigue, boosts production, and reduces accidents.

Lots of clatter can be suppressed by reducing vibrations, building enclosures around noisy pumps, generators, and machines, muffling sound with acoustical tile or glass fiber panels, or "engineering out" some noise by improved machinery design.

How much noise is annoying? Specialists measure sound in terms of decibels, or units of sound pressure. Most people are comfortable in a range between 45 and 75 decibels. They can tolerate noises in the 75 decibel to 100 decibel range for awhile without discomfort. When noises rise above 100 decibels, they become nuisances, and at 130 decibels or above they may be classed as "positively painful," the experts say.

On the decibel scale of sound intensity, a busy street corner has about 60 decibels of sound and a stenographic typing room about 70. A vacuum cleaner rates about 85 decibels, and the interior of a DC-6 airliner about 105 during take-off.

Consider the decibels attained by some typical factory machines: Punch press, 100; hydraulic press, 110; drop hammer, 120. A boiler factory, traditionally considered the noisiest of industrial spots, has about 120 decibels.

Factories which have attacked the noise-reducing problem find they can make a significant cut in the clamor. A drop of even five or 10 decibels in the over-all noise of a shop or at a given work station is considered sufficient to spell the difference between hearing damage and the maintenance of normal hearing.

The problem for industry, particularly small concerns, is the cost of tackling noise-suppression. Many manufacturers find they can't undertake elaborate programs to reduce noise at the source. However, low-cost ear protective devices often will do the trick at a relatively low cost.

Trend toward noise reduction is benefiting the companies which produce acoustical tile, glass, or mineral fiber panels, and similar insulation products. Included are such firms as Johns-Manville, National Gypsum, U. S. Gypsum, Celotex, Armstrong Cork, and Owens-Corning Fiberglas. This group expects to ring up sales of $50 million to $60 million solely for acoustical materials in 1956, compared with less than $10 million a decade ago.

Another set of manufacturers concentrates on cutting noise by reducing vibrations from heavy machinery through the use of rubber or felt pads. Major rubber manufacturers such as Goodrich, Goodyear, and U. S. Rubber are promoting vibration-absorbing pads to join this trend.

To our way of thinking, this important movement will prevent strikes. Period.

Never before has the indispensable man in business been so easy to identify. He is the salesman. He holds the key to the stability, the security, the expansion of our American economy.—FRANK KINGDON.

* * *

Problems our forefathers never dreamed of will face posterity, such as how to crowd two coffee breaks, lunch, a meeting of the bowling league and a bridal shower for stenographers into a four-hour working day.—*Universalist Leader.*

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'The Conscience of the Industry'

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

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Editor:

As a subscriber to your good periodical we recall seeing one of the issues quite some time ago one or two articles dealing with scheduling of equipment maintenance on a systematic basis.

If you could readily locate the copy of this back issue and send it to us it would be very much appreciated, or similar data which might be published in book form.

C. V. RIEFENBERG

Answer: The NEWS has published many stories on this subject. Three of the most recent ones were: "Simple Forms and Procedures Help Keep Big Service Operation Working Smoothly from Four Separate Locations" (Feb. 21, 1955 issue); "How Large Firm Keeps Tab on Service Costs" (July 4 and 11, 1955 issues); "Service Contracts—Firm's Permanent Customer Records Quickly Show Equipment Service History, Operations Analysis" (Oct. 3, 1955 issue).

Adkins-Latta Co.
Bryn Mawr, Pa.

Editor:

In the Jan. 23 issue of AIR CONDITIONING & REFRIGERATION NEWS, we found the editorial on "How Can Our Industry Promote Air Conditioning's Health Value" very interesting.

May we use paragraphs in letter to our customers?

THOMAS H. LATTA,
Treasurer

Sacramento, Calif.

Editor:

It makes a person feel good to read George's crystal ball views concerning the future. If we could get more reading material with such viewpoints maybe some of the sawdust could be removed from some of the blockheads (a minority thank goodness, but still a thorn in the side).

RAY C. CRYRER

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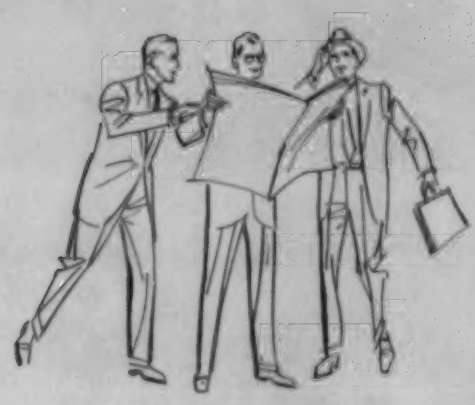

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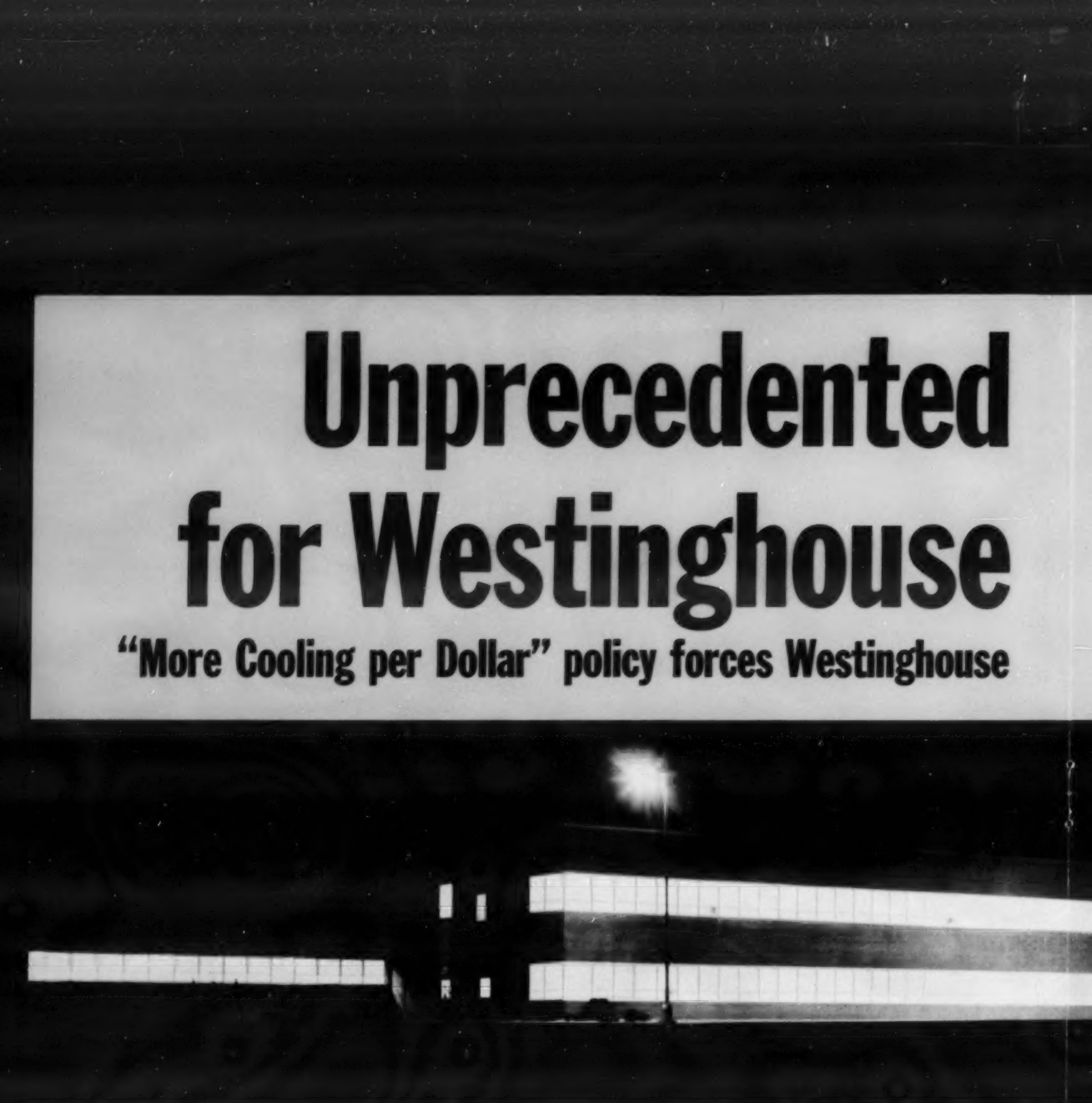

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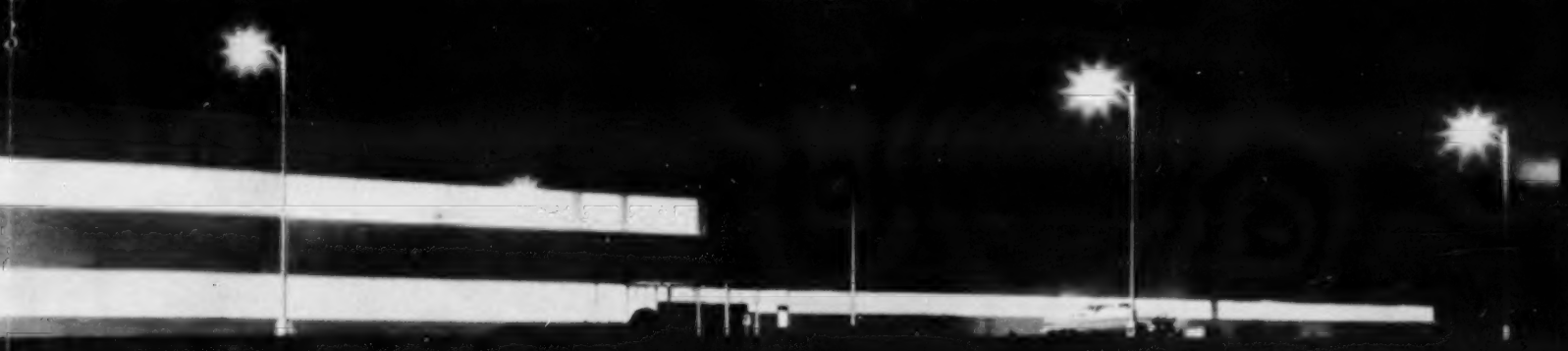

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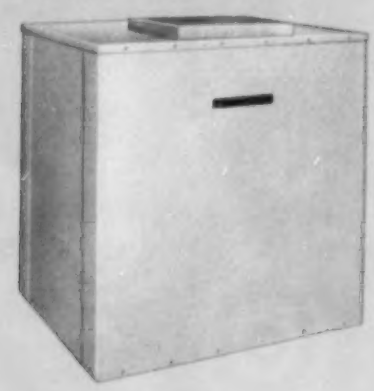

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316 West Cabarrus Street
Mr. W. F. Morris, Jr., Pres.

WINSTON-SALEM
Wall-Turner Heating & Air Cond. Co.
487 S. Stratford Road
Mr. S. W. Turner, Eng. & Mgr.

OHIO

CINCINNATI 2
The Kuempel Co.
1000 Gilbert Avenue
Hal K. Jennings, Vice-President

CLEVELAND 15
Unit Air Conditioners, Inc.
2336 Prospect Avenue
Mr. Hyman H. Weiner

COLUMBUS 2
The Kuempel Company
2572 High Street
Leon Kuempel, Pres.

TOLEDO 4
Air Conditioning Distributors, Inc.
602 Broadway
Mr. R. Myers, Pres.

YOUNGSTOWN 3
Carlson Electric Company
121 E. Boardman Street
Mr. E. C. Carlson, Pres.

OKLAHOMA

OKLAHOMA CITY
Air Engineering Inc.
26 N. E. 26th St.
Mr. E. M. Howe

PENNSYLVANIA

ERIE
Lakes Engineering Company
1316 G. Daniel Baldwin Bldg.
Mr. Thomas P. Gannon, Partner

PHILADELPHIA 31
Raymond Rosen & Company, Inc.
Parkside & 51st Street
Mr. Wm. Nealon, Builders Div. Mgr.

PITTSBURGH 1
Aircon & Heating Supply Co., Inc.
3811 Penn Avenue
Mr. Sanford Bausman, President

WEST VIEW, PITTSBURGH 29
W. J. Keist & Son, Inc.
322 Perry Highway
Mr. H. J. Spangler, Vice-Pres.

PENNSYLVANIA (Cont.)

WILKES-BARRE
AirCo Distributing Company
20 South Washington Street
Louis L. Popky, Partner

TENNESSEE

KNOXVILLE
Indoor Comfort Distributors Co.
520 Van Street
Mr. N. W. Bradley, Sales Mgr.

MEMPHIS 3
Associated Southern Industries
1161 Union Avenue
Mr. R. B. Buckingham, Mgr.

TEXAS

DALLAS
Stone Co., Inc.
1716 Plantation Rd.
Mr. Mirion Coever

EL PASO
Fred A. Lankford
2601 E. Missouri St.

FT. WORTH
General Engineering Corp.
118 South Main St.
Mr. W. C. Weeden, Vice-Pres.

HOUSTON
Natkin & Company
6610 Supply Row
P. O. Box 9374
Mr. Al Natkin

Star Steel Supply Co.
9411 Alameda
Mr. Morrie Perlman, Dist. Mgr.

JACKSONVILLE
Hillencamp Engineering Company
P. O. Box 209
Alton Hillencamp, Owner

LUBBOCK
Homer G. Maxey & Co.
1611 Fourth Street

ODESSA
Permian Air Cond. Inc.
2533 N. Grant Street
Mr. Lewis R. Bewley, Pres.

SAN ANGELO
Climate Engineering Company
2320 Sherwood Way
Mr. Kenneth Eschman, Owner

SAN ANTONIO
Alamo Air Cond. & Plmbg. Co.
A Div. of Alamo Lumber Co.
447 West Hildebrand Avenue
Mr. C. C. Collins, General Mgr.

UTAH

SALT LAKE CITY 1
Williams, Gritton & Wilde
204 Dooly Building
Mr. R. C. Williams, Partner

VIRGINIA

NORFOLK
Stokley's Services, Inc.
4000 Colley Avenue
John M. Stokley, President

ROANOKE
Davis H. Elliot Co., Inc.
11-13 Naval Reserve Ave., S.E.
Mr. Davis H. Elliot, Pres.

WASHINGTON, D.C.

Combustioneer Corp.
409 Tenth St., S.W.
A. E. Beitzell, Vice-President

WASHINGTON

SPOKANE 4
Warren Little & Lund
W. 609 Second Avenue
F. J. Lund, Partner

WEST VIRGINIA

CHARLESTON
Thrush Refrigeration Co.
1012 Virginia St., E.
Mr. R. D. Thrush, Owner

WISCONSIN

MILWAUKEE 7
Layton Supply Company
924 E. Russell Avenue
Mr. Howard B. Engles, President

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J-80508

Food Store Trends:

Air Conditioning Now a Must; Air-Cooled Equipment Gaining Popularity; New Type Frozen Food Cases Likely

DETROIT—There is a definite trend to use of air-cooled equipment, both for air conditioning and commercial units, in new food stores, it was noted at a press conference held following a National Association of Food Chains management clinic on store layout, equipment, and maintenance.

Illustrating the widespread use of air conditioning in present-day supermarkets, M. S. Morse, vice president in charge of store operations for expanding Jewel Tea Co., operator of 180 stores in the Chicago area, pointed out that about two-thirds, or 128, of his firm's markets are now air conditioned, compared with five in 1952.

Jewel To Use Air-Cooled Equipment In New Stores

After commenting on the current water shortage problem as it affects food stores, Moore said that Jewel Tea, starting this year, is "going 100% air-cooled" in new markets opened by the firm. He said this was tried in two stores for two years and that no trouble had been encountered.

Testimonials on the value of air conditioning to the food store were offered. Observed Morse:

"We think air conditioning in the summer is as important as heating in the winter, for the comfort of both customers and employes. We wouldn't think of opening a store without it."

Added John Hassel, store planning manager of the Kroger Co.: "If a store is worth opening, it's worth air conditioning."

Frozen Meats

Answering a question on the future of frozen meats, Hassel said there was little comment on this matter in his clinic discussion group. However, he stated, it was suggested that thought should be given to the growth potential of frozen meats in planning future purchase of cases.

One thing the industry is vulnerable on, he remarked, is that the case designed for frozen foods today and the case that will be used for frozen meats in the future may not be the same. New type cases will be needed to handle frozen meats, it was said.

Hassell said he doesn't agree with some predictions that frozen meats would take over a big chunk of meat volume within five years. He doubts that frozen meats will "move ahead that fast."

Because of space limitations and the growing number of products competing for that space, there is a definite need and demand for multi-level frozen food cases so stores can carry more merchandise, according to Morse.

Remote-Type Refrigeration Equipment

A greater movement toward remote-type refrigerated equipment was noted. Units should be kept as close as possible to the equipment they service, but away from heat-producing elements and into an area away from the cases, officials remarked.

Another topic gone over at the two-day clinic was store size. Present trend is to bigger markets and this will grow, officials declared.

Typical supermarket being built today covers approximately 15,000 sq. ft., according to Wallace N. Flint, NAFC vice president. Ten years from now, it was agreed, some stores going up probably will contain as much as 30,000 sq. ft.

Scientific market planning allots about 65% of new buildings to sales area, 35% to backroom storage, it was added. Aisles generally average 6 or 6½ ft. wide.

In a general statement, Hassel said the Kroger Food Foundation is having its experts look into better food packaging. More attractive designs, packages that will retain food freshness longer, and similar things are included in this experimenting.

Packaging for frozen meats was another aspect of the situation noted.

Opinion on Color Divided

Flint said opinion expressed during the clinic on the extent to which color will be used in stores in coming years was divided.

He said some thought color on walls would be sufficient, without extending it to fixtures. Others felt there would be more use of color in fixtures.

Store planners from all over the U. S. and from Canada, Germany, and Cuba attended the sessions in the Sheraton-Cadillac hotel.

Replying to a question as to what general conclusions had been reached at the Clinic, Flint explained that this was not the purpose of the meetings. He said they were to stimulate thinking on clinic topics.

Connor Names Harwell

NEW YORK CITY — J. A. Harwell, Nashville, Tenn., has been appointed representative for Connor Engineering Corp. "Kno-Draft" residential ceiling air diffusers in eastern Tennessee.

Firm's Air Conditioning Products Reviewed by Airtemp Field Engineers

DAYTON — Field engineers for Airtemp Construction Corp. recently participated in two one-week conferences held at the Airtemp factory here to review new products and developments.

Engineers attending the parley included F. G. Kilburn, Atlanta region; J. H. Murray, Chicago region; E. T. Crook and P. F. Penton, Dallas region; L. H. Baker, Miami region; A. O. Festorazzi, New Orleans region; F. D. Halama, H. N. Cates, R. G. Hoehn, and J. B. Mule, New York region; J. V. Weigle, Philadelphia region; N. J. Pleimann, Dayton region; W. J. Bartkow, Washington region; R. H. Hagan, St. Louis region; P. A. Fleury IV, Detroit region; and W. F. White, West Coast.

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to answer all your customers' needs in air conditioning?

...*Are you prepared,* if your customer needs waterless air conditioning?

...*Are you prepared,* if your customer demands air conditioning that requires only a minimum amount of floor space?

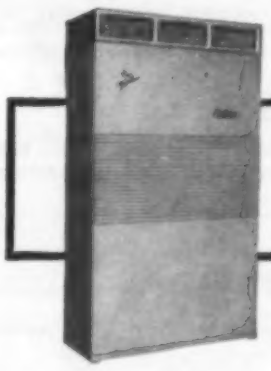
...*Are you prepared,* if your customer needs cooling added to his heating?

...*Are you prepared,* if your customer insists on a nationally known brand name?

...*Are you prepared,* if your customer wants *more* cooling at *less* cost?

Your Airtemp distributor is prepared to offer you the one line of air conditioning that meets all the needs of every customer. Call your Airtemp distributor today for all the details!

Airtemp DIVISION CHRYSLER CORP
DAYTON 1, OHIO



THE *FORWARD* LOOK IN AIR CONDITIONING

the really complete line for '56!
Airtemp gives you a big choice in both waterless and water-cooled "packaged" air conditioners. 13 sizes from 2 H.P. to 30 H.P.

AIRTEMP *BUILDS* AIR CONDITIONING FOR EVERY BUSINESS REQUIREMENT

Redmond Builds Plant To Produce New Style Fractional Hp. Motor

OWOSSO, Mich.—A new plant in Angola, Ind. is now being completed by The Redmond Co., Inc., manufacturer of fractional horsepower electric motors.

According to James W. Tweedy, president of Redmond, this plant was designed and laid out specifically to produce "as efficiently and effectively as possible" a new style motor Redmond is adding to its line.

Tweedy said the new motor is greatly different in performance and structure from those now manufactured by Redmond.

"Designated Type AL-4, this motor is compact and lightweight, and has a variety of applications in the heating, refrigeration, ventilating, air conditioning, and appliance fields.

Minneapolis-Honeywell Ups Allen In Sales

MINNEAPOLIS—Ralph Allen, who had been a market manager in Minneapolis-Honeywell Regulator Co.'s heating division, has been named administrative assistant to the company's general sales manager.

Ralph Allen

He succeeds Clarence W. Spangle, who has been appointed general manager of Honeywell's subsidiary in Germany.

Allen formerly was in charge of nationwide sales of Honeywell-built self-powered heating controls. He will continue to make his headquarters in the company's executive offices.

He will assist Gavin S. Younkin, general sales manager.

80-Ton Year-Round System Installed In Sarasota Hotel

SARASOTA, Fla. — The new 92-unit Azure Tides hotel court at Lido Beach here has been completely air conditioned by Worthington Corp. refrigeration equipment, the company announced recently.

Worthington equipment provides 80 tons of refrigeration and consists of two 25-ton packaged chillers and two 15-ton condensing units. The multiple compressors provide step-starting and capacity reduction, it was said.

Individual temperatures can be thermostatically maintained in each room. Convectors in each room circulate hot and cold water through the same pipe system according to seasonal requirements.

Southern Calif. RACCA Installs '56 Officers

LOS ANGELES—Officers of the Refrigeration & Air Conditioning Contractors Association of Southern California for 1956 were installed at a recent meeting of the membership.

They are Don Beck, Kilpatrick Co., president; Don Kissell, D. L. Kissell Refrigeration Co., vice president; and Sam Elster, Elster's, secretary-treasurer.

$10 Million Shopping Center To Get Conditioned Walkways

DALLAS—Edward T. Dicker and Jerome Frank of Dallas have announced plans to build a $10,000,000 40-acre shopping center with "air conditioned sidewalks."

Dicker said the regional center, at Garland, Texas, will have "translucent glass domes" over the walkways.

15 Los Angeles Markets To Be Air Conditioned

LOS ANGELES — Charles Walling, president of National Refrigeration, Inc. here, announces receipt of a contract calling for the air conditioning of 15 existing Ralphs supermarkets in the Greater Los Angeles area.

According to National's secretary-treasurer, L. K. Brink, the Ralphs order will see all existing stores in the company's chain fully equipped with complete year-round air conditioning before the start of the summer season.

It is further stated that a blanket order originating from National will call for the use of air conditioning equipment manufactured by Drayer-Hanson, Inc., Los Angeles.

Involved in most installations will be ceiling-suspended and/or floor-mounted air handling units, as the equipment core for both cooling and heating; also, evaporative condensers.

Installation work is now under way, the announcement continued.

FORECAST
Cool, clear profits with Gibson Air Conditioners

DAILY PROFIT LEDGER

Gibson wins race to top profits in industry!

Gibson Deluxe Air Conditioner

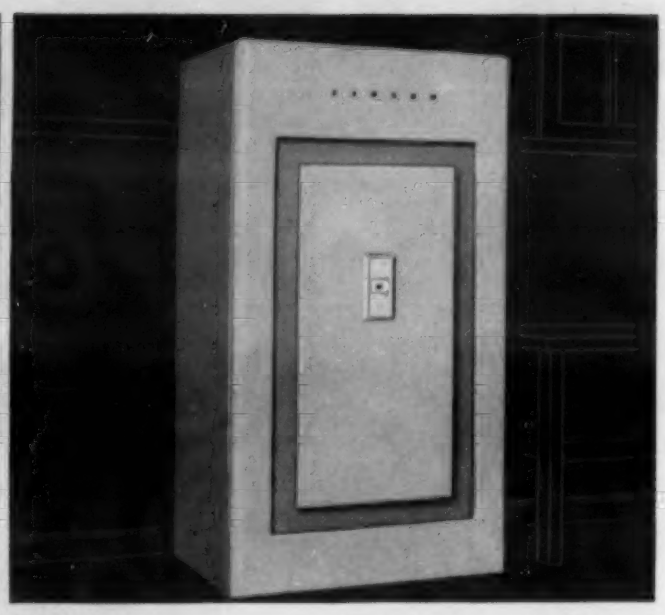
Cashville, U. S. A.—Gibson dealers report record-breaking sales gains for the Gibson Deluxe Air Conditioners. This stylish flush-mounted room conditioner has won large consumer acceptance because of its powerful cooling capacity and speedy stale air exhaust.

No-draft ventilation

Adjustable twin louvers, easily accessible on the front, team up to provide gentle no-draft ventilation. Dust and pollen don't stand a chance, as Gibson's Super-fine Fiberglas Filter cleans and purifies the air. Thermostatically-controlled. Available in Custom models, too, in ¾ h.p., 1 h.p. and 2 h.p.

Plugs into any multiple 115-volt circuit

Low operating cost is the big feature of Gibson's ¾ h.p. models—less than 1 kwt per hour. No special wiring is needed. Delivered complete with "do it yourself" mounting kit, most of which is assembled on unit at factory. Dealers report they can now install twice as many Gibsons as other makes per day.



GIBSON SELF-CONTAINED AIR CONDITIONER

Profitown, U.S.A.—Gibson Residential and Commercial Air Conditioners are going over in a big way, say thriving Gibson dealers. Packed with extra features, these self-contained units for home and business offer large capacity cooling, economy and dependability!

2 to 8 h.p. units

Gibson's wide range of models, with water- or air-cooled condensers—2, 3, 5, and 8 h.p. units—means a wide range of sales prospects for dealers. And since Gibson is famous for durable construction, you save time and money by cutting down on service calls. All units carry Gibson's regular 5 year warranty.

Join the profit parade!

It's no wonder that throughout the industry, dealers agree enthusiastically, "Again—Gibson's got it!" Why not join them on the road to bigger profits? Clip and mail the coupon below *today!*

79 years of experience and millions of satisfied customers mean you can always rely on

Gibson

REFRIGERATORS • ROOM AND SELF-CONTAINED AIR CONDITIONERS
FOOD FREEZERS • ELECTRIC RANGES • BUILT-IN RANGES

Gibson Refrigerator Company, Dept. A C
Greenville, Michigan

Please send me all the facts on how I can boost my sales and profits with Gibson's air conditioning line.

*Name*_____

*Address*_____

*Firm Name*_____

*City*_____ *State*_____

Gibson Appoints Hart As Central Ky. Outlet

GREENVILLE, MICH. — W. C. Conley, vice president in charge of Gibson sales has announced the appointment of Hart Distributing Co., Louisville, Ky. as the new Gibson distributor for refrigerators, electric ranges, food freezers, and room air conditioners for the Louisville and central Kentucky trading areas.

The Hart Distributing Co. is already servicing Gibson dealers in this territory, Conley explained.

Officers of the company are Robert N. Hart, president; Robert Jackson, vice president; and Mrs. Katherine Wagner, secretary and treasurer.

Herman Nelson Appoints Trefflinger Plant Mgr.

MORRISON, Ill.—William H. Treffinger has been named new manager of the Morrison plant of the Herman Nelson Div., American Air Filter Co., Inc., according to Howard M. Fitch, vice president and division manager.

Treffinger succeeds Robert Bryan who resigned. He joins American Air Filter from Wayne Works, Inc., Richmond, Ind., where he was plant superintendent.

The Morrison plant manufactures Herman Nelson unit blowers, heating and ventilating units, industrial air conditioners, auditorium unit ventilators, portable heaters, and "Electro-Klean" home air filters.

Schaller Advertising Moves to New Quarters

WEST HARTFORD, Conn.—William Schaller Co., producer of refrigeration wholesalers' catalogs and advertising agency for Bush Mfg. Co. and Heat-X, Inc., has moved to new larger quarters.

The company's new location is 1245 Farmington Ave., West Hartford, Conn.

For more information about products advertised on this page use Information Center, page 20.

Refrigeration Problems
And Their Solution
By Paul Reed
For Service and Installation Engineers

Two Temperature Solenoid Valve

QUESTION

Will you please give me some advice on a frozen food locker plant? There are two evaporators on one machine. One evaporator is in a small room, and the other evaporator is in a larger room. The small room is kept at -20°. and the larger room is at about 0° F.

They have a solenoid valve in the liquid line between the compressor and the two evaporators. What is this solenoid valve for, and if this machine has to be pumped down into the receiver to change a drier or expansion valve, what would be the procedure?

ANSWER

Apparently, the small room held at -20° is the freezing room, where the foods are frozen and then transferred to the larger 0° room in which the individual lockers are evidently located.

Running these two rooms on the same machine is not too economical, but it is not at all unusual to find this arrangement in small locker plants. It costs somewhat more to put a smaller machine on each of the two rooms originally, but it saves money in operating costs spread over a few years.

Many years ago we used to have a rule about carrying two temperatures on the same machine. It went something like this:

Never put two temperatures on the same machine if—

1. One evaporator is maintained at more than 10° colder than any other evaporator on the same machine, or if—

2. The coldest evaporator does not carry at least one-half of the total load on the machine.

It is still a good rule, although admittedly it is often violated.

SOLENOID PROBABLY PART OF A TWO-TEMPERATURE CONTROL

But to get to your problem. Your letter states that the solenoid is "in the liquid line between the compressor and the two evaporators." This would indicate that this solenoid is in the main liquid line before it branches to the two evaporators. You did not mention how the solenoid valve was actuated, but presumably it is controlled by a thermostat in one of the rooms.

There are many ideas on how to control a two-temperature installation of this type, but one of the most simple ways, and one that is usually very satisfactory, is to put the thermostat in the 0° room and have it actuate the solenoid valve only. Starting and stopping the machine is by means of a low pressure.

This would mean, however, that your solenoid valve is in the branch liquid line leading to the evaporator in the 0° room. This seems more likely than the solenoid being in the main liquid line.

SEQUENCE OF OPERATION IS IMPORTANT

The sequence of operation of such an arrangement is:

1. With the machine not running, if the 0° room warms up, the thermostat contacts close, the solenoid valve opens, and feeds liquid refrigerant to the evaporator in the 0° room.

2. The inrush of refrigerant to the comparatively warm evaporator in the 0° room raises the low pressure through the suction line and this causes the low pressure control to close and start the machine.

3. The machine runs and refrigerates both the 0° and the -20° room, until the 0° room is cold enough. Then the thermostat opens, the solenoid closes, and refrigeration to the 0° room ceases.

4. The machine continues to run and refrigerate the -20° room, but with the 0° room off, the suction pressure drops. As soon as the -20° room is cold enough, the lower pressure control opens and stops the machine.

Thus, the thermostat and solenoid act as a two-temperature valve, but has two advantages over a pressure type two-temperature valve.

1. It does not modulate, but is either fully off or fully on. This simplifies oil return.

2. It controls the temperature of the 0° room thermostatically, which, particularly on low temperature application, is more accurate than controlling by suction pressure, especially if there is quite some variation in load.

If the machine is already operating on the -20° room only, when the 0° room needs refrigeration and causes the thermostat to close and the solenoid to open, the 0° room is given refrigeration until the thermostat is satisfied, and the solenoid closes. Then the machine continues to operate on the -20° room as before.

Care must be exercised in such an arrangement, that the control sequence is in the order described. The low pressure control must not be set to cut out at a high enough pressure that it stops the machine with the thermostat still calling for refrigeration for the 0° room.

On a two-temperature installation such as this one, it is advisable to install a check valve in the branch suction line from the evaporator in the -20° room. This keeps refrigerant from distilling from the warmer evaporator in the 0° room, into the cold evaporator in the -20° room, during the idle cycle. If this happens, the excess refrigerant goes back to the compressor as a "slug," resulting in noisy operation, and considerable vibration.

OPEN SOLENOID WHEN PUMPING DOWN

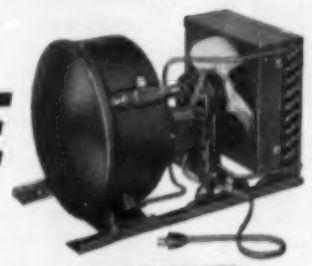
If, for service work, you need to pump the system down, reset the thermostat to a low enough temperature that it keeps the solenoid valve open. If the thermostat cannot be reset manually, it is easier to short across its connections, rather than to disturb the setting. Do not "wedge" it closed or it may damage the thermostat.

With the thermostat closed, and the solenoid valve open, close the receiver service valve and pump the system down.

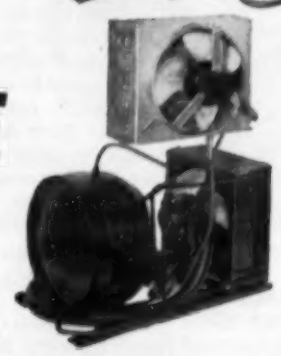
IF YOUR END PRODUCT DEPENDS ON

TROUBLE-FREE COMPRESSORS

TROUBLE-FREE CONDENSING UNITS



TROUBLE-FREE REFRIGERATION SYSTEMS



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COMPARE BEFORE YOU BUY! Prove to yourself that for trouble-free service, dependable performance and low operating cost, Kelvinator *precision-built refrigeration equipment serves you best.* If you have an application that calls for hermetic compressors, hermetically sealed condensing units or hermetic refrigeration systems, a Contract Department Sales Engineer will help you determine the model best suited to your needs. *Call or write today.*

American Motors Corp.
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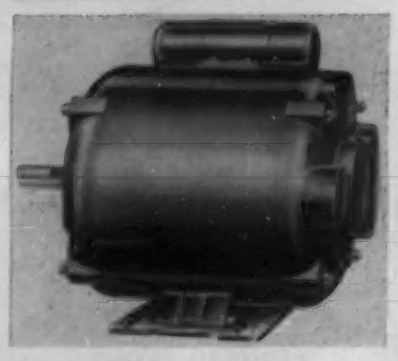
DIVISION

SPECIALISTS IN REFRIGERATION SINCE 1914

For more information about products advertised on this page use Information Center, page 20.



Single-Phase Motor Line Offered by ACEC

——KEY NO. F-310——

NEW YORK CITY—A line of single-phase fractional-horsepower motors with ball bearings and dual-voltage windings at approximately the prices of sleeve-bearing single-voltage motors has been introduced by ACEC Electric Corp. here.

The new ACEC motors are available through the company and its branches and distributors throughout the United States, it has been announced by Clemens C. Persily, general sales manager.

Used for driving air conditioning and refrigerating machines, fans, pumps and blowers, compressors, conveyors, oil burners, and a host of other applications the motors are offered in ¼, ½, and ¾ hp., and 1,200, 1,800, and 3,600 r.p.m. ratings, for 115 or 230 volt, 60-cycle power supplies.

All motors have aluminum-injection molded, one-piece squirrel-cage rotors, dynamically balanced for vibration-free operation, according to the firm.

The stator has a high efficiency core of laminations precision punched from high-grade electrical sheet steel.

240 to 410-Ton Centrifugal Units Developed

——KEY NO. F-311——

DETROIT—A single-stage hermetic centrifugal refrigerating machine called "Tonrac," which is said to feature quiet, efficient performance and completely automatic chilled-water temperature control throughout its full range of cooling capacity, is now available from American Blower Corp.

The machines are presently available for a tonnage range of 240 to 410 tons. Motor ratings are 250 hp. and 300 hp., both suitable for 115% of rated continuous duty, the company said.

Hermetic motors are presently available for 208, 220, 240, 440, 460, 480, and 550 volts; three-phase, 60 cycles, three-wire, and two-phase, 60 cycles, four-wire current. Reduced voltage starting equipment is required.

"Tonrac's single-stage design contributes to operating efficiency through elimination of two or more compression stages combined with improved diffusion in the volute casing," it was stated.

"This compact construction avoids extra impellers, housings, and connections and saves space and weight as well as installation and operating costs.

"The single impeller in Tonrac units is mounted directly on the motor shaft, eliminating the need for field alignment of rotating parts. Motors are standard water-cooled, hermetic, constant-speed (3,600 r.p.m.) units. External tranmissions or speed increasers are not required."

Hermetic construction in the refrigerating machine "provides complete enclosure of the motor-compressor assembly," American Blower said. "No mechanical shaft seals are required, minimizing the possibility of refrigerant loss."

"Freon-113" refrigerant is used in Tonrac, according to the company's report.

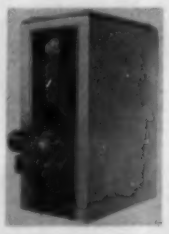
"Only three major components (evaporator, compressor, and condenser) require field assembly. Tonrac can normally be installed by four men in a single week.

"Variable inlet guide vanes, located directly in front of the single impeller inlet, are automatically positioned to regulate the quantity, velocity, and direction of the refrigerant gas flow to the compressor in direct response to cooling load requirement.

Furnace Designed for Mass Housing Market

——KEY NO. F-312——

SYCAMORE, Ill.—J. V. Patten Co. here recently introduced a small "Sun Fuel-Master" furnace designed for the mass housing market, it was announced.

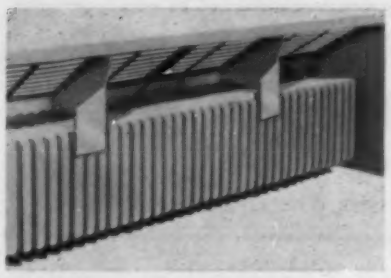


Model OH-7065 basement furnace is compact and economical for winter air conditioning small homes with basements, the manufacturer stated. It is 22 in. wide, 36 in. long, and 52 in. high.

Smallest of the line, the Sun OH-7065 consists of a heavy steel rectangular combustion chamber equipped with a heat chute and drum radiator. The primary and secondary heat exchangers are constructed in continuous, gas-tight, arc-welded sections. The primary is heavy-gauge welded steel rectangular combustion chamber with a combination combustion baffle and heat accelerating tube 10 in. by 3 in. in area, and 24 in. long entirely surrounded by combustion products.

The rectangular tube outlet is centered in the top of the primary heat exchanger, sending a volume of superheated air into the plenum's center of the plenum which furnishes warm air to the duct system. The secondary heat exchanger consists of a 10-in. heating drum with a 6-in. vent pipe at the rear and extends through the return air section of the furnace casing.

All units are furnished with 9-in. diameter full-width centrifugal blowers belt driven by ⅓-hp. long-hour, heavy-duty motors. Each unit is accessible and cleanable.



Snap-On Enclosure Is For Finned Radiators

——KEY NO. F-313——

RICHMOND HILL, N. Y.—A "snap-on" enclosure which can be installed on finned pipe radiators quickly was announced recently by Slant-Fin Radiator Corp. here.

Know as "Snap-On Slope Top," the item was developed to eliminate complicated installations and to provide more durable construction, the company declared.

Seating brackets welded inside permit the entire cover to be snapped directly onto the heating element. Neither a mounting of hanging strips nor cover support brackets are required. Sheet metal stiffeners are welded under the louvers as additional reinforcement. In addition, a flange is welded to the right hand end of each enclosure section to allow joining continuous runs of cover and for connecting to corner pieces and end plates, the manufacturer stated.

Snap-On Slope Top enclosures are available in stock lengths of 2, 3, 4, 5, 6, and 8 ft. When specified, they can be supplied in sizes to the nearest inch. They are available for 1, 2, and 3-tier heights with 3½ or 4¼-in. square fins or slant fins, it was added.

Butcher Boy Doors Claim 8 New Features

——KEY NO. F-314——

HARVARD, Ill.—Eight new features have been added to "Butcher Boy" refrigerator doors for 1956, says the manufacturer, Butcher Boy Refrigerator Door Co.

One improvement, the firm stated, is inclusion of "X-Type" steel diagonal door bracing which prevents sagging, allows reverse swing if necessary, and provides maximum insulation fill space inside.

"Safety Release Fastener" for infitting doors guards against danger of being locked in the refrigerator, it was declared. Slight pressure on the inside release mechanism automatically unlatches the door even though padlocked outside, the company emphasized.

Another addition is the shock-absorbing "Adjustable Spring" hinge, according to the manufacturer. Double springs developing double action, with adjustment ease, Butcher Boy No. 53 hinges maintain air-tight sealing and compensate for bumping strain, the company said.

Automatic electric defroster with thermostat is also included in improvements, the manufacturer states. Lead covered heater cables are secured by clips with rabbeted channels into casing on fireproof metal lined inside channel and steel removable cover plates in this new unit.

A power operated horizontal sliding door is another feature in the new line. Opening, entering, and closing the door can be accomplished in 8 seconds, the manufacturer claims. Used where space is a factor, doors are available from 3 ft. wide or wider and 7 ft. high or higher as required.

Operation is by compressed air and the standard built-in type refrigerator door can be included for escape purposes, the company states. Doors also are available in manual operation and in vestibule type, it was said.

Trane Announces New Packaged Conditioners

——KEY NO. F-315——

LA CROSSE, Wis.—A "completely modernized" line of commercial packaged air conditioners has been announced by The Trane Co.

"Features of these lower cost self-contained units are quiet operation, smart appearance, a fresh air intake which bypasses compressor section, one piece plenum chamber, fan motor mounted out of the heated air stream, condenser arranged for single set of piping connections, and complete field accessibility and serviceability," the company said.

Basic components include the Trane hermetic compressor and "Delta-Flo" fin coil.

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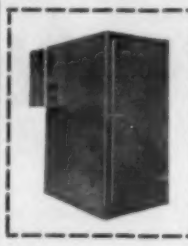

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Packless Solenoid Valve Developed by Atkomatic

——KEY NO. F-316——

INDIANAPOLIS — Atkomatic Valve Co. Inc., recently announced introduction of a new 1-in., two-way globe type, pilot operated stainless steel solenoid valve with packless construction.

Designed to function at pressures ranging from 10 to 3,000 p.s.i., the standard model is normally closed, but can be made normally open up to 300, and with use of a relay, to 3,000 p.s.i., the company said. With this relay, power must be supplied at all times.

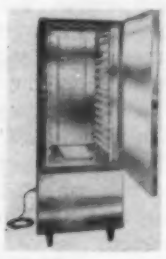
Available in any voltage, features of the new model include high corrosion resistance, ability to operate at high pressures, full ported maximum flow construction, stick-free unbreakable piston rings, glass wound silicone impregnated coils for high temperature performance, and optical explosion-proof housing, it is claimed.

Type SS with standard coil for operation to 300 p.s.i. is a variation of the basic unit. Type HPSS with high pull coil for applications to 1,500 p.s.i. is another.

Crescent 'Frigid Cabinet' Moves Food, Beverages

——KEY NO. F-317——

CLEVELAND — Recently introduced by Crescent Metal Products, Inc. here was a "Frigid Cabinet" for transporting cold foods and beverages from preparation point to serving area.



Double insulation is gained, the company stated, by double-wall aluminum lined with Fiberglas. The insulated door is mounted with continuous aluminum alloy hinge and seals itself by a synthetic rubber gasket. A two-stage "lock and seal" latch prevents cold passage. The cabinet is mounted on four 5-in. ball-bearing, neoprene rubber-tired casters, it was added.

A "Tray Guide Rack" that is adjustable in width for any common size pan or tray is provided.

"Glide-Out" shelves eliminate reaching into the cabinet for trays or plates in model R-170. Shelves are vented to allow air circulation and will hold optional 21 x 11 x 12-in. chrome stainless steel plate racks, stacked plates with covers, or bulk food, the firm said. Three Glide-Out shelves—no width adjustment—are standard.

Refrigeration unit is located at the bottom of the cabinet in a space 27 in. wide by 33½ in. deep. Outer panels are removable for necessary adjustment. Louvers permit air circulation around the ⅛-hp. unit which provides "Directed-Flow" cold air movement within the cabinet.

Outer dimensions of the cabinet are 26 by 33 by 69¾ in. Inside it is 23 by 29 by 42 in.

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Victor Offers 'Flat Top' Beverage Cooler

——KEY NO. F-318——

HAGERSTOWN, Md. — Victor Products Corp. recently announced a new beverage cooler—the dry storage "Flat Top" for under-counter use.

These coolers are also suitable for backbar use or as an island self-service dispenser of dry cooled bottled beverages.

Made in three sizes that hold from nine to 22 cases of 12-oz. bottles or 14 to 33 cases of 6-oz. bottles, they come complete with a hermetically sealed unit.

Frankell Improves Hermetic Compressor Opener

——KEY NO. F-319——

NEW YORK CITY — Frankell Mfg. Co. here recently announced an improved model semi-automatic hermetic compressor opener.

Claimed to open any hermetic compressor up to 20 in. in diameter regardless of weld location, without extra equipment, jigs, or fixtures, the machine automatically stops at a pre-set time. No special skill or training is needed.

Adjusting of a handle and a turn of the hand wheel changes from one type compressor to another. To operate, the machine is set on a turntable, clamp tightened, grinder positioned to weld, and switches turned on, it was added.

The opener is constructed of heavy gauge metal and iron castings, requires no maintenance, and has an exterior front of two shatter proof windows so operation can be checked.

'Precision' Tube Cutter Cuts to Any Length

——KEY NO. F-3110——

PROVIDENCE, R. I.—A "Precision Tube Cutter" which automatically or manually cuts metal tubing to any desired lengths was recently introduced by Rhode Island Engineering & Mfg. Corp.

Claimed to be accurate within thousandths of an inch, with little or no burr, the machine will cut both ferrous and non-ferrous metals up to 4 in. in diameter.

'Whirlpool' Beverage Dispenser Introduced

——KEY NO. F-3111——

NORTH HOLLYWOOD, Calif.—CTC Mfg. Corp. here recently announced a new non-carbonated, counter-type beverage dispenser with "whirlpool" animation principle, the firm announced.

Offered in two sizes, each has a rotating sales display inside the "quick-change" plexiglas bowl. "Whirlpool Sr." has 9 to 12-gal. capacity, "Whirlpool Jr.," 6 to 8. The dispenser stands 27 in. high with an illuminated translucent dome and the cabinet is 16½ in. high with stainless steel top and front.

Magnetic action pump is said to give "trouble free" operation, has no seals or external shafts, is powered by a hermetically sealed compressor. The evaporator is a stainless steel cylinder inside the bowl and the unit has "Fast-Flo" spring-loaded faucet for quick shut-off, the firm stated.

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How Residential Cooling-Heating System Controls Function (1)

Of the many components that make up a residential air conditioning installation none is more important than the controls. While a good control system cannot overcome mistakes in sizing of equipment or improper duct design, the best installation will not give satisfaction without proper controls.

The following is the first section of an article by Douglas S. Sterner of General Controls discussing controls for residential air conditioning. In it he describes the various types of residential air conditioning systems now in use. Subsequent instalments will be devoted to controls for these systems.

By Douglas S. Sterner, Manager, Air Conditioning-Refrigeration Controls Div., General Controls Co.

Residential air conditioning, combining the functions of both heating and cooling, has provided the manufacturer and the dealer with one of the newest and fastest growing markets in the country today.

Knowledge and experience gleaned in the fields of home heating, mechanical cooling, and accessory operations have contributed substantially to this development.

Each Home Unit Presents Different Control Problem

Residential air conditioning units are many and varied, each presenting different and sometimes peculiar control problems. Therefore, to intelligently discuss controls for residential air conditioning, the first part of this article will be devoted to the type of equipment available.

Primary residential heating systems fall into three categories: forced warm air, wet heat, and space heat, with companion cooling equipment following the same general pattern: forced air cooling and wet cooling.

Most Applications with Forced Warm Air Furnaces

Most widely used residential cooling applications are with forced warm air furnaces which lend themselves ideally, since most cooling systems distribute the cool, dehumidified air to the conditioned space by means of ducts, with supply air outlets in each room and return air outlets strategically located.

Consequently, the two are combined efficiently and economically to provide complete residential air conditioning systems, which heat and humidify, cool and dehumidify, circulate, ventilate, and filter the air supplied to the living area the year 'round.

Air conditioning systems of the forced air type usually are:

(a) Integral units, Fig. 1, which combine all the functions of heating and cooling in a single package;

(b) Additive cooling units, which are separate from the furnace, but are connected to it; or

FIG. 1 is a typical "integral" year-round residential air conditioner. This happens to be a Typhoon installation at Austin Village.

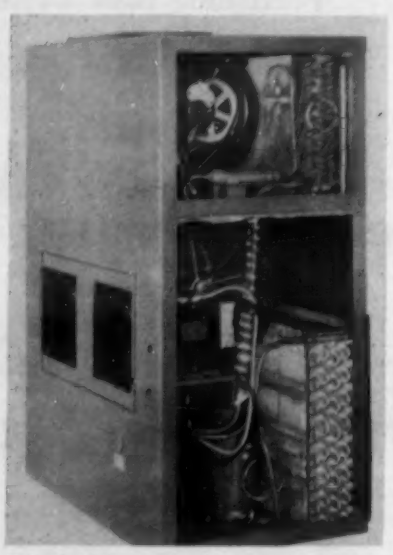

FIG. 2—This is a Lingle "additive" self-contained unit designed for addition to an existing heating system.

(c) Split systems, which provide a complete and independent cooling system, generally with ducts, and completely independent heating, usually of the wet or space variety.

Integral units also are of different types. Conventional units use the natural fuels, gas or oil, in combination with mechanical cooling.

2 Heat Pump Designs

Then there are heat pumps, of two basic designs; one uses water as the heating and cooling source, the other uses air. They are conventional mechanical cooling units, which, when the cooling cycle is reversed, provide heating. In summer, the cooling effect of the evaporator is utilized to provide comfort cooling. The heat picked up in the evaporator is dissipated by the condenser.

In winter, the reverse is true; the heat of the condenser is utilized to provide comfort heating while the cooling effect of the evaporator is dissipated.

Sales of heat pump air conditioners are rapidly increasing, especially in the residential market, and particularly in the Southeast and Southwest where the winters are mild.

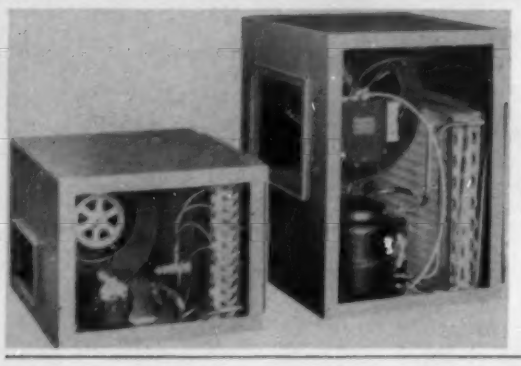

FIG. 3—This Lingle "additive" air conditioner provides for remote location of air-cooled condensing unit.

Another integral unit of note is the absorption system, which utilizes gas to provide both heating and cooling. Its greatest acceptance probably would be in those areas supplied with low cost natural gas.

Additive cooling units, frequently called "add-ons," are even more varied in design and application than are integral units. To be added to a forced warm air heating system either initially or at a later date, these units operate with air or water-cooled condensers; the trend being toward air cooled, with sizes now available up to 8 tons.

This is due largely to water costs and city regulations which frequently require the addition of some water-recovery device, such as a cooling tower. The cost of air-cooling equipment thus becomes comparable, and may be easier to install, less unsightly, and require less attention and maintenance.

Additive Units Available In 3 Basic Designs

Additive units are available in these basic designs:

(a) Self-contained units are like direct expansion, packaged "store coolers," with which we are familiar. The package, Fig. 2, contains all of the cooling components, blower and motor, cooling coil or evaporator, compressor, and condenser in a cabinet, with controls. If the condenser is air cooled, it may be located remotely.

(b) Packaged units are the same as the self-contained except that they do not contain a blower, the furnace blower being used for both heating and cooling. These frequently are of a design to be backed up to a furnace and thus are known as "back-to-back" units.

(c) Remote or divided units, consisting of two packages. (Fig. 3.) The condensing unit package (high side) comprising the compressor and condenser generally is remotely located. The cooling package, which consists of the cooling coil, drip or drain pan, and housing, is located at the furnace, generally on the discharge side.

It can be mounted horizontally directly on the furnace, in the riser from the furnace, or mounted vertically in the plenum. Divided units may be either direct expansion or chilled liquid units.

2 Unique Additive Units Developed Recently

Two rather unique additive units have been developed recently for the residential air conditioning field. One package consists of a compressor and an evaporative condenser, a complete water-cooled condensing unit, combined with the water-recovery device. It is a direct expansion unit and is connected to a remote cooling coil section located at the furnace.

The other, and newest package consists of a water-cooled condensing unit, complete with water-recovery device, as described above, except that the compressor, instead of being driven by an electric motor, is actuated by a natural gas engine. This unit can be an indirect type complete with liquid chiller, the chilled liquid being pumped to a remote cooling section located adjacent to the furnace, or it can be a direct expansion unit.

(Continued on next page)

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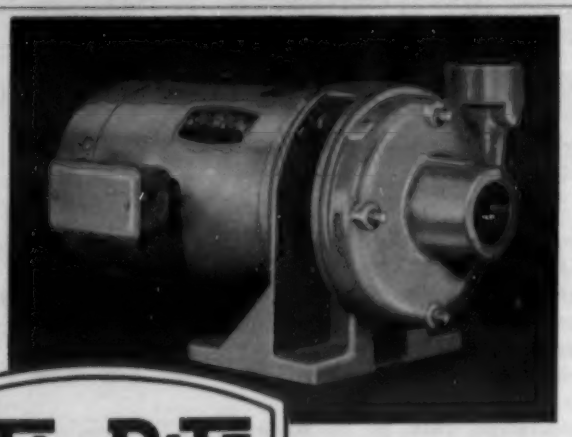

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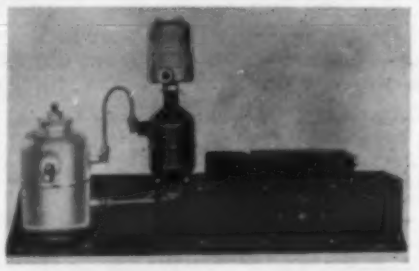

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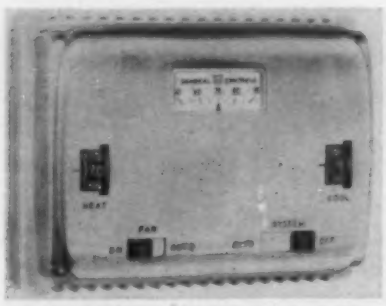

FIG. 4 is a thermostat providing automatic changeover from heating to cooling and vice-versa.

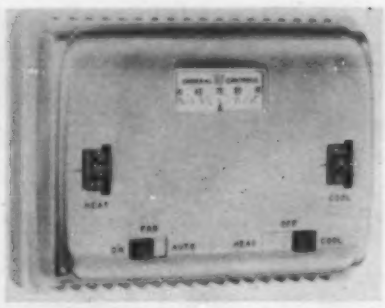

FIG. 5—Manual changeover from heating to cooling is provided in this thermostat.

How Residential Controls Function--

(Continued from preceding page)

Completely independent cooling systems in design are truly self-contained air conditioning units complete with blower. However, their residential application is to cool a residence, using a duct system which is not used for heating. In this way, cooling can be added to homes that are warmed with water, steam, or space heaters.

A variation is the so-called "split system," which provides a duct system for cooling in the summer and tempering the air in the winter, with wet heat supplying the heating requirements.

Room Units Can Provide Partial Independent Cooling, Heating of Homes

Room installations can provide partial and independent cooling and heating for residences. A wet-cooling system makes use of convectors to provide a combination heating and cooling system, utilizing hot water for heating and cold water for cooling.

Convectors commonly consist of a single coil for both heating and cooling, a blower, and frequently a housing with supply and return air openings or grilles. They are designed to be floor mounted, hung from the ceiling, installed in closets, or mounted in the walls between the studding.

Hot water generally is supplied by means of a conventional boiler and cold water by means of a water chiller, usually packaged, and located conveniently to the boiler. The hot or cold water is pumped to each convector through pipes and returned from each convector to the boiler or water chiller in the same fashion.

Water-To-Water Heat Pump May Replace Boiler, Chiller

A water-to-water heat pump may be used to replace the boiler and water chiller. A water-to-water heat pump functions in the same general manner as water-to-air heat pumps, except that instead of heating or cooling air, it heats or cools water.

It might be well to mention that mechanical cooling systems can be designed to use a single compressor or two compressors. Thus, a 2-ton unit can have one 2-ton compressor or two 1-ton compressors. When two compressors are used the system generally is called a two-stage system and somewhat different control problems exist.

It is axiomatic that any air conditioning system is as good as the controls which govern its operation.

By that I do not mean to imply that a good control system will make up for a poor air conditioning installation, for it is obvious that the controls cannot increase the equipment capacity nor the duct sizes. But it is safe to state that the best air conditioning system will not provide comfortable conditions if the control system is substandard.

The combinations of controls which can be applied to the various air conditioning systems are practically limitless. However, any control system must have certain basic controls, and their use best can be explained by suggesting the basic uses for each control.

New controls are constantly being developed and old controls are being improved to assist in the growth of the residential air conditioning market and to meet the requirements of the individual manufacturer. And there are almost as many different ideas as to control requirements as there are manufacturers of residential air conditioning units.

Basically, control systems should be made to operate as automatically as possible. The history of all consumer-goods items indicates the desire of the homeowner or housewife to have the maximum in automatic operation, whether it pertain to washing machines, clothes dryers, or the defrosting equipment on the family refrigerator. Therefore, it is logical that residential air conditioning follow the same pattern.

Since the room thermostat is the brain of any control system, it is of primary importance, and we find that more design changes and improvements have been made on residential room thermostats than on any other single item.

Thermostats are available today that will fill the most varied and exacting manufacturer requirements. General Controls has in its horizontal thermostat line thermostats that will control one or two-stage cooling, one or two-stage heating, and provide, in the same thermostat, a wide variety of manual-switching functions.

The majority of residential thermostat installations are so-called low voltage (24 volts), and their advantages are so widely appreciated that we feel line-voltage thermostats should not be considered for residential application.

New Feature Is 'Cold Anticipator'

A vitally important new feature of residential summer-winter thermostat design has been to provide "cold" anticipation as well as "heat" anticipation. These anticipators hold the temperature variations within the conditioned space to very close limits during the cooling season and during the heating season.

The "cold" anticipator is a small, high-resistance heater which is energized only when the compressor is not operating. This heat causes the thermostat to anticipate a rise in room temperature somewhat ahead of the actual increase, thus starting the compressor before the conditioned space has warmed perceptibly.

Our tests have shown that for the same thermostat cold anticipation has cut the room temperature variations from 5° F. to 1¼°.

This was explained very well in an interesting article by Kenneth Behr of Lennox Furnace Co. titled "How Thermostat Which Anticipates Heat, Cold Can Improve Performance" which appeared in the Aug. 15, 1955 issue of AIR CONDITIONING & REFRIGERATION NEWS.

All manual control selections required should be made at one central point, the thermostat. It either can be of the automatic changeover type, Fig. 4, or of the manual changeover type, Fig. 5, with a changeover switch. Changeover refers to changing the operation of the system from heating to cooling and vice-versa, which can be done automatically by temperature or manually by the user.

(To Be Continued)

Carrier Div. Names Haladay

MONROVIA, Calif. — The Payne Div. of Carrier Corp. recently announced the appointment of George Haladay as advertising manager.

Haladay has been with Payne since 1952 and has until his promotion served as production manager and assistant advertising manager for the division's advertising department.

Haladay announced that the forthcoming plans for Payne will include an extensive program of dealer meetings.

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Servicing Automobile Air Conditioners

BY C. DALE MERICLE

This is the first instalment describing the air conditioning system manufactured by Mobil-Aire Mfg. Co., Div. National Gas Equipment Co., Inc.

Makes previously discussed have included A.R.A. Frigikar, Automotive Air Conditioning, Pivot, Novi, Oldsmobile, Buick, Pontiac, Chevrolet, Ford Nash, and Mark IV.

MOBIL-AIRE (1)

Mobil-Aire Mfg. Co. Div.
National Gas Equipment Co., Inc.
P.O. Box 122
Denison, Texas

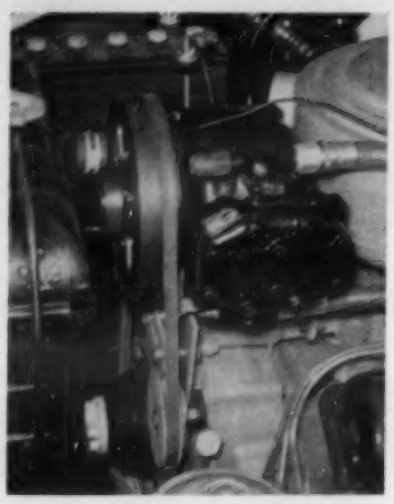

FIG. 1—Tecumseh HH compressor and Warner magnetic clutch are employed on Mobil-Aire systems.

DESCRIPTION

Automobile air conditioning systems produced by Mobil-Aire Mfg. Co. have been distributed under the trade names of "Mobil-Aire," "ModernAire," and "WethR-Matic" for conventional installation and "Mobilette" for under-dash models.

Regardless of difference in trade name, the three conventional systems mentioned above are alike in design and operation. Condenser is in front of car radiator, compressor mounts on car engine, and evaporator assembly is located in the forward section of the trunk.

The Mobilette system, however, mounts the evaporator assembly beneath the car (or trunk) instrument panel. Condenser and compressor are installed as for the other systems.

Refrigerant is "Freon-12." Charge is 2 lbs. in the Mobilette, 4½ lbs. in the other models.

Compressor

The Tecumseh HH automotive type compressor is used for all air conditioning systems produced by this manufacturer.

Suction service valve of this compressor is on the right side, and the discharge service valve is located on the left.

A Warner magnetic clutch is incorporated in the compressor pulley. (See Fig. 1.) This permits the compressor to be disengaged when cooling is not desired. The magnetic clutch is manually controlled by a toggle switch in the passenger compartment.

FIG. 2—Evaporator housing of conventional Mobil-Aire units is located in trunk of car.

Condenser

Condenser is installed in front of the car radiator. The condenser assembly incorporates a receiver on all models.

Evaporator

Evaporator housing of the larger Mobil-Aire, ModernAire, and WethR-Matic systems, located in the trunk of the car (Fig. 2), contains the coil, two blowers, thermostatic expansion valve, and thermostatic by-pass valve.

Ducts on each side of the housing connect to discharge air outlets mounted on either side of the parcel shelf. Return air is brought to the evaporator from a grille in the middle of the parcel shelf directly above the evaporator housing.

Thermostatic expansion valve used on earlier models was the A-P 205-C. In later production the A-P 207-C expansion valve is employed.

To maintain constant temperature and prevent icing of the evaporator coil under extreme humidity conditions, an A-P 521 thermostatically controlled by-pass valve is included in the system.

Controlled by a temperature-sensing bulb located in the return air stream at the evaporator, the 521 valve by-passes refrigerant around the evaporator from the high side to the low side as required to maintain constant temperature of the coil. The valve opens as the feeler bulb becomes colder, and closes as the bulb warms up. No electrical connections are involved with this valve.

The above arrangements apply to the conventional systems of this manufacturer.

A smaller, more compact evaporator housing is used for the Mobilette under-dash system (Fig. 3). This housing, which is designed for trucks, station wagons, and convertibles as well as standard passenger cars, contains only the evaporator, expansion valve, and one blower.

Adjustable louvers on the front of the case permit direction of air flow to be controlled.

Expansion valve used with the Mobilette unit is an A-P 206 model.

No by-pass valve is provided with the Mobilette system. If icing of the coil should occur under extreme humidity conditions, the unit is simply shut off by disengaging the magnetic clutch until the coil defrosts, which usually takes less than a minute.

Driver of the car can readily see through the discharge louvers whether the coil needs defrosting.

Due to lack of space, the drier-filter and sight glass are not installed in the Mobilette evaporator housing but are located beneath the hood on the inside of a fender.

(To Be Continued)

FIG. 3—Evaporator housing of Mobilette unit is installed under dash.

General Controls Offers Counter Display Package

GLENDALE, Calif.—A new package that converts to an attractive counter display has been designed by General Controls to merchandise its new "Tempotherm" clock thermostat.

The Tempotherm automatically lowers and raises room temperature to assure comfortable sleep through the night and warm rooms in the early morning, the company said.

The new self-contained display package requires only 6 in. of counter space.

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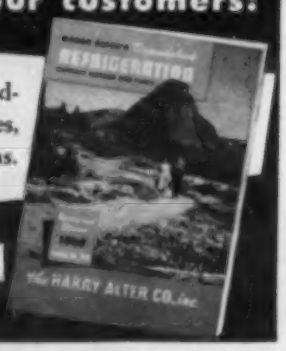

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Write outlining work experience and personal history.

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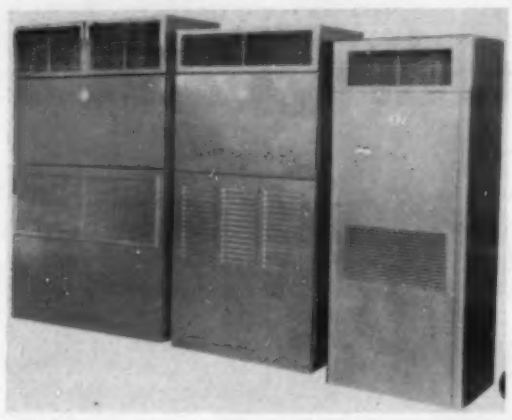


BARKOW "Weatherwise" air conditioners are available in 2, 3, 5, and 7½-ton models. All except the 7½-ton model are available with water-cooled condenser or remote air-cooled condenser assembly. At present the 7½-ton model is made only with the water-cooled condenser.

Barkow Air Conditioners--

(Concluded from Page 1, Col. 2)

the same in exterior design and dimensions. With the exception that different tonnage compressors are used, component parts are the same.

The 2, 3, and 5-ton models are now in production and are available with water-cooled condenser or the remote air-cooled condenser assembly.

The 7½-ton unit is available only with water-cooled condenser. However, a new 7½-ton air-cooled condenser assembly is now being developed, according to William J. Wawrzonek, sales manager.

An important feature of the air conditioners is that the units may be converted from the regular commercial models to a furnace model simply by removing the plenum chamber and exchanging the front and rear panels, Wawrzonek pointed out. This conversion can be made within a matter of minutes, with the right type of panels, he said.

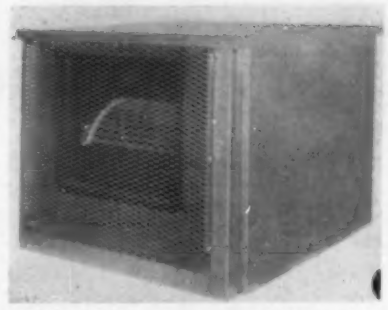
All units are available in single and three-phase current.

Height of the new air-cooled condenser assembly is 23¾ in.; length, 35½ in.; depth, 29¼ in.

"The condenser may be installed remotely and away from the air conditioner, out of doors," Wawrzonek noted. "It may be installed in the garage, concealed in shrubbery, or installed in the attic of the home where air can be ducted into it.

"The air inlet duct size is 24 in. by 20 in. The air outlet duct is 24 in. by 19½ in. The air condenser is of 3-ton capacity and we use a 12-in. squirrel cage type blower equipped with a ½-hp. motor.

"Three thousand cubic feet per minute are blown through the air condenser, which makes it an ideal installation regardless of ambient outside temperature.



AIR-COOLED condenser assembly used in conjunction with Barkow's "Weatherwise" air conditioners of 2 through 5-ton capacities.

"One of these is used with the 2-ton model, one with the 3-ton model. However, when this air-cooled condenser is used on the 5-ton model, two of the condensers are used, hooked up in parallel. Efficiencies are greatly increased with the air-cooled condenser assembly because of the large size condenser used."

Regarding the STR-2 and STR-3, Wawrzonek said these units can be installed outdoors, concealed among shrubbery, etc. The evaporator coil may be installed in the plenum chamber or cold air return duct of the furnace.

He said a major feature of this type of air conditioner "is that it can be installed very reasonably. Any refrigeration man can install this unit in a matter of six hours or less."

A new plenum chamber has been developed to accommodate the evaporator coil, he added.

Bohn Names Aylward--

(Concluded from Page 1, Col. 2)

cago Teachers college. He began his business career in the planning department of Crane Co. During World War II he served in the U. S. Marines as a fighter pilot and squadron executive officer.

Aylward started with Bohn in 1947 as a salesman.

Wiring Group Says--

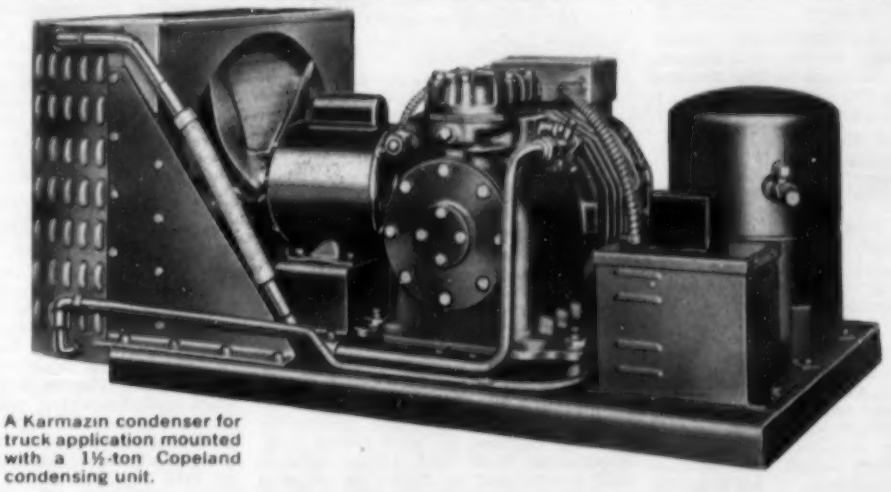
(Concluded from Page 1, Col. 3)

by Laurence A. Dunn, merchandise manager.

Dunn said the survey revealed that 63% of rewiring jobs to date "have been accompanied by the purchase of one or more major appliances." The survey also showed, he added, "that 55% of rewired homes are fairly immediately prospects for additional purchases in this field."

R. Crawford Logan, administration salesman, Wiring Modernization Program of Kansas City, Mo., said there are three basic reasons why consumers rewire. He listed these as fear, purchase of appliances, and pressure from tenants who want to purchase new appliances but need more adequate wiring in the building.

Logan cited examples for each case.



A Karmazin condenser for truck application mounted with a 1½-ton Copeland condensing unit.

KARMAZIN'S

nested-fin condenser steps up heat transfer efficiency

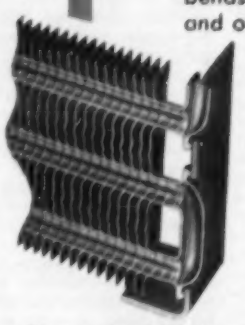
Because Karmazin nested-fin condensers are made with integral fin-type construction, they provide greater heat transfer per square foot of surface than most conventional units.

In Karmazin's integral design, the tubes are precision-formed from the fins themselves. This eliminates the usual mechanical joints between fin and tube—and their resistance to heat flow—resulting in faster cooling with no loss of radiation efficiency.

Karmazin condensers provide uniform spacing of tube and fins. All joints are hydrogen brazed at one time (including return bends and stanchions) with a perfect copper bond ring inside and out. Ridges through the condenser's interior passages help agitate the refrigerant and assure that more of it will come in contact with passage walls.

Integral design also means constant efficiency. The fins on a Karmazin unit can never become loose because of vibration, impact, expansion or contraction. Karmazin one-piece fin condensers have clean lines, possess no metal projections to collect lint and dust. They will stand up under all weather conditions.

The list of Karmazin condenser users reads like the Blue Book of the refrigeration and air conditioning industry. Why not join their ranks—give your product the finest condenser on the market. Write today to Dept. A for catalog on air-cooled condensers from ¼ to 7½ hp. capacity.



The interior of the Karmazin condenser showing the corrugations on the inside of the tubes . . . designed for greater turbulence of the refrigerant.

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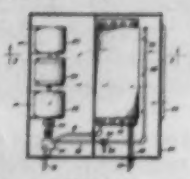
PATENTS

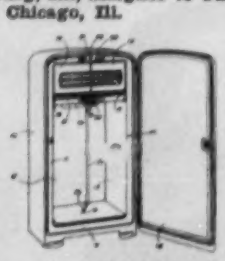
Week of October 11 (Concluded)

2,720,662. AIR CONDITIONING UNIT. James G. Hailey, Dallas, Texas. Application June 26, 1953, Serial No. 364,280. 5 Claims. (Cl. 62—6.)



1. An air conditioning system comprising a heat exchanger, an impeller for causing air flow through said heat exchanger, a pump for circulating a heat absorbing fluid through said heat exchanger, a variable speed motor connected in driving relation to said impeller and said pump and means for varying the motor speed in response to the condition of the treated air, a spray nozzle mounted adjacent to said heat exchanger, a connection for supplying water to said nozzle, a valve in said connection, and means response to the humidity of the treated air for controlling said valve.

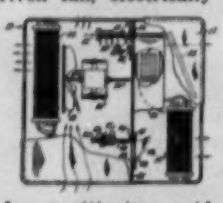
2,720,669. REFRIGERATOR TRAY AND BAFFLE. Evans T. Morton, Galesburg, Ill., assignor to The Admiral Corp., Chicago, Ill.



1. In a domestic mechanical refrigerator having an evaporator heat extraction unit in the top portion thereof, an impervious moisture baffle member arranged below said top portion, a storage drawer member arranged below said moisture baffle, both of said members extending horizontally through the interior of said refrigerator, and defining an upper freezer compartment and a lower non-frozen food storage compartment, a movable vane on one of said members for regulating convection therethrough, an opening adjacent said movable vane and in the other of said members for permitting convection therethrough, and moisture draining means for allowing moisture drainage through said members and through said vane substantially independent of the position of said vane.

2,720,690. AIR CONDITIONING CONTROL. Thomas H. Ford, New York, N. Y., assignor to Radio Corp. of America, a corporation of Delaware. Application April 23, 1954, Serial No. 425,247. 4 Claims. (Cl. 62—129.)

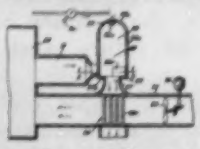
1. A control for a self-contained air conditioning device having an electrical motor-driven compressor, an electric motor-driven ventilating fan, an exhaust damper and a ventilating damper comprising a switch for controlling operation of said electric motor-driven compressor, a switch for controlling operating of said electric motor-driven fan, electrically operable



means for positioning said exhaust damper, electrically operable means for positioning said ventilating damper, an exhaust switch for controlling said exhaust damper positioning means, a ventilating switch for controlling said ventilating damper positioning means, a control unit for selectively actuating said switches both individually and collectively, and means mechanically linking said switches to said control unit, said linking means being arranged to operate said switches in predetermined combinations in accordance with preselected conditioning functions.

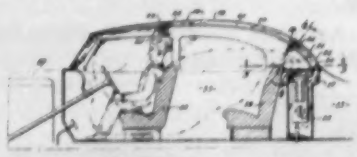
2,720,691. AIR CYCLE COOLING DEVICE EMPLOYING VORTEX TUBE. Helmut R. Schelp, Pacific Palisades, Calif., assignor to The Garrett Corp., Los Angeles, Calif., a corporation of California. Original application Oct. 14, 1949, Serial No. 121,436. Divided and this application April 5, 1954, Serial No. 420,875. 12 Claims. (Cl. 62—135.)

1. In an air cycle air conditioning system, a vortex tube including an air inlet for working air and a pair of oppositely extending air outlets each of a different diameter, a spray chamber directly connected to said air outlet of larger diameter and having mounted therein nozzle means for introducing a fine spray of water into the working air for evaporative cooling thereof, a heat exchanger directly connected to said air outlet of smaller



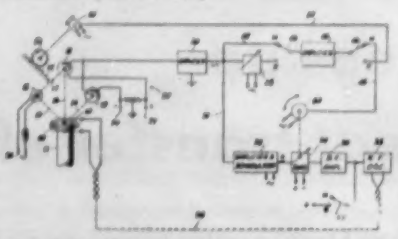
diameter and providing a path for said working air after leaving said expansion device, a suction device including an air inlet for the working air leaving said heat exchanger and including an air discharge outlet open to the atmosphere, means to regulate the flow of water through said nozzle means whereby the moisture content of the working air issuing from said air discharge outlet is capable of regulation to obtain total saturation, and duct means to conduct conditioning air through said heat exchanger along a path separate from the working air path but in heat exchange relation with respect thereto.

2,720,146. AUTOMOBILE AIR CONDITIONING DUCT SYSTEM. Willard Le Blond Groene, Phoenix, Ariz. Application Sept. 21, 1953, Serial No. 381,212. 7 Claims. (Cl. 98—2.)



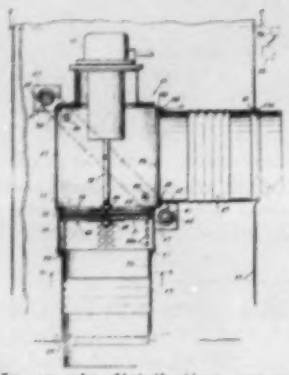
1. In an air conditioning duct system for an automobile body having a passenger compartment with a top and a headlining, a trunk compartment, a rear seat in said passenger compartment, a rear shelf behind said rear seat, a cooling unit in said trunk compartment under said shelf, a warm air intake duct on said cooling unit, a cool air discharge duct on said cooling unit, a warm air intake grill in said shelf connected to said intake duct, a window frame fixed in said body, a double rear window in said frame, a discharge opening in the bottom of said frame opening into the space between the panes of said double window connected to said discharge duct of said cooling unit, an outlet opening in the top portion of said frame communicating with said space between said panes, and a discharge member connected to said outlet opening through the space between the top and headlining to discharge cooling air into said passenger compartment.

2,720,107. DEW-POINT HYGROMETER. Henry C. McBrair, Caldwell, N. J., assignor tor Wallace & Tiernan Inc., a corporation of Delaware. Application Jan. 29, 1953, Serial No. 333,077. 17 Claims. (Cl. 73—17.)



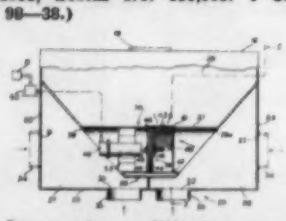
1. In a dew-point hygrometer, in combination, a dew-forming element having electrical means for modifying the temperature thereof, said temperature-modifying means having a control circuit for adjusting the operation thereof in accordance with the electrical condition of the circuit, Photoelectric means observing the element, for producing a signal output which departs from zero in one direction or the other in accordance with presence on the element of more or less than a predetermined amount of dew, electrical means controlled by the photoelectric means and varying the electrical condition of said control circuit in immediate response to change in the output of the photoelectric means due to change in dew condition of the element, for adjusting the temperature-modifying means to maintain the temperature of the element in equilibrium against continuance of change in dew condition of said element, said temperature-modifying means being adapted to require different electrical conditions in the control circuit to interrupt change in dew quantity at different temperatures of the element, so that said electrical means tends to produce said equilibrium at some temperatures with a non-zero signal representing continuing departure of the dew quantity from said pretermined amount, a supplemental electrical source connected to said control circuit, and supplemental means electrically controlled by the photoelectric means and adjusting said supplemental source in slower but continuous response to departure of the output of the photoelectric means from zero signal, for supplementarily varying the electrical condition of the control circuit so that the temperature-modifying means maintains equilibrium of the temperature of the element at the zero signal point providing the aforesaid predetermined amount of dew.

2,720,150. AIR CONDITIONING MIXING UNIT. Samuel E. Lyman, Elizabeth, N. J., assignor to Buensod-Stacey, Inc., New York, N. Y., a corporation of Delaware. Application Nov. 6, 1952, Serial No. 319,106. 6 Claims. (Cl. 98—38.)



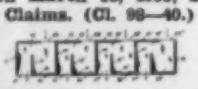
1. In an air distributing apparatus, the combination comprising an air distributing chamber having air outlet connection means to a zone, an air mixing and proportioning device, a warm air supply duct and a cold air supply duct leading into said chamber and having connecting means to said device, said device including a duct communicating at opposite ends with said connecting means to the warm air and cold air supply ducts, respectively, and having a plurality of apertures in the side wall thereof to pass air from the respective ducts into the chamber, a power-operated rod, a pair of spaced abutments on said rod, a pair of damper elements extending across said duct communicating at opposite ends with the warm air and cold air supply ducts slidably carried on the rod between said abutments and movable in said duct to vary proportionally the number of apertures open to the respective supply ducts, a spring normally urging said dampers apart and into contact with their respective adjacent abutments, said spring being yieldable to vary the spacing between the two dampers so that an open damper can be moved by its abutment to its fully opened position after the other damper has been closed and so that, as the rod is moved in a direction to open the closed damper, the open damper will be moved toward closed position before the closed damper is contacted and opened by its abutment so as to limit the total amount of air which can be admitted by said dampers at one time.

2,720,151. AIR CONDITIONING SYSTEM. Joseph W. Kreuttner, North Tarrytown, N. Y., assignor to Buensod-Stacey, Inc., New York, N. Y., a corporation og Delaware. Application April 23, 1953, Serial No. 350,555. 4 Claims. (Cl. 98—38.)



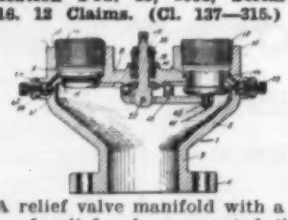
1. In an air conditioning apparatus for a zone, an air distributing unit comprising a closed box-like casing having a generally Y-shaped partition extending transversely between opposite longitudinal side walls of the casing and longitudinally from one transverse side wall to the bottom wall and thence from the bottom wall to the other transverse side wall of the casing so as to form two lower opposing air receiving compartments and an upper air mixing compartment having an outlet opening, one of said lower compartments having inlet means for receiving cold air and the other of said lower compartments having inlet means for receiving warm air, a tubular member extending between the arms of said Y-shaped partition and communicating at opposite ends with the lower opposing air receiving compartments, said connection having aperture means between its ends opening into said air mixing compartment for passing air from each air receiving compartment into said air mixing compartment, damper means including a transversely disposed disc in said connection separating the side of the connection connected with said warm air receiving compartment from the side connected with the cold air receiving compartment, and means in said connection for moving said disc axially to vary proportionally the aperture means open to said warm and cold air receiving compartments.

2,720,152. AIR DISTRIBUTING WALL. Gaines Lamar Ball, West Point, Ga., assignor to Batson-Cook Co., West Point, Ga., a corporation of Georgia. Application March 16, 1953, Serial No. 342,366. 4 Claims. (Cl. 98—40.)



1. In an air distributing wall, a plurality of similarly shaped and spaced members, each of said members comprising a minor upright portion, a lower horizontal portion having one end connected to the lower end of said minor upright portion, a major upright portion having its lower end connected to the other end of said lower horizontal portion, and an upper horizontal portion connected to the upper end of said major upright portion, said members being positioned with the minor upright portion of each succeeding intermediate member spaced from the major upright portion of the preceding member to form outlet nozzles therebetween and so that the upper horizontal portion of each member overhangs the minor upright portion of each succeeding member, the minor upright portions and lower horizontal portions and major upright portions of said members defining plenum chambers, the minor upright portion of each of said members being shorter than the major upright portion of each of said members to form passageways respectively interconnecting said outlet nozzles with said plenum chambers, the length of each said lower horizontal portion and each said upper horizontal portion being such as to form an inlet passageway into the upper end of each said plenum chamber between the free end of each said upper horizontal portion and the upper end of each succeeding major upright portion.

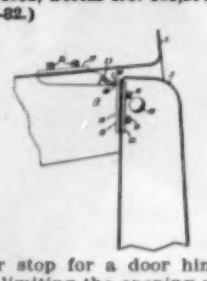
2,720,214. RELIEF VALVE MANIFOLD. Earl V. Rupp, Chicago, and Harry N. Shaw, Wauconda, Ill., assignors to The Bastian-Blessing Co., Chicago, Ill., a corporation of Illinois. Application Feb. 19, 1953, Serial No. 337,716. 12 Claims. (Cl. 137—315.)



8. A relief valve manifold with a plurality of relief valves mounted thereon with coplanar valve seats comprising a single valve means rotatably mounted interiorly of the manifold to move from one relief valve to another in a plane parallel to the plane of said valve seats for selectively sealing off any one of the relief valves, and means located exteriorly of said manifold and being inter-connected with said valve means for rotating said valve means to a selected position and means for moving the valve means in an axial direction at said valve seats.

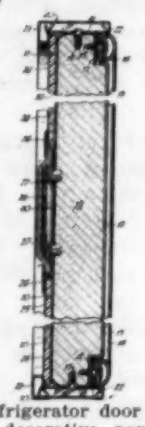
Week of October 18

2,720,674. DOORCHECK FOR REFRIGERATORS. Julius B. Horvay, Fairview Township, Erie County, Pa., assignor to General Electric Co., a corporation of New York. Application Dec. 27, 1952, Serial No. 328,204. 1 Claim. (Cl. 16—82.)



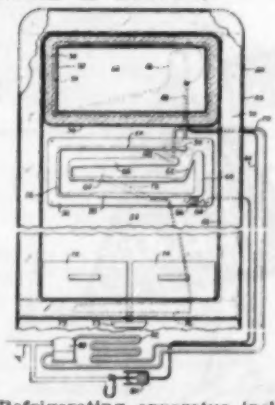
A door stop for a door hinged to a case for limiting the opening movement of a door comprising a bumper mounted on a face portion of the door, a stop mounted on a face portion of the case which registers with said face portion of said door when said door is closed, said bumper including a lip projecting toward said face portion of said case, said stop including a nose projecting toward said face portion of said door when said door is closed, said nose being engageable by said bumper adjacent said lip during opening movement of said door for thereby limiting the opening movement of said door, and means for horizontally adjusting the mounted position of said stop on said case for varying the point at which said nose of said stop is engageable by said bumper thereby to vary the extent of said opening movement of said door.

2,720,683. REFRIGERATOR DOOR. Eric H. Schwenker and Michael H. Scott, Evansville, Ind., assignors to International Harvester Co., a corporation of New Jersey. Application Jan. 2, 1953, Serial No. 329,431. 13 Claims. (Cl. 20—35.)



3. In a refrigerator door having side walls, two decorative panels, one of said panels positioned against the outer upper surface of said door, the other of said panels positioned against the outer lower surface of said door, means mounted to said side walls and to the portion of said outer surface between said panels and cooperating with said panels for maintaining said panels mounted in said positions against the outer surface of said door.

2,720,757. TWO TEMPERATURE REFRIGERATING APPARATUS. John H. Heidorn, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware.



1. Refrigerating apparatus including an above freezing food compartment and a below freezing compartment, a thermal heat transfer barrier between said compartments, a refrigerant liquefying means, a freezing evaporating means in heat exchange relation with said below freezing compartment and having its inlet connected to an outlet of said liquefying means, a food compartment evaporating means in heat exchange relation with said food compartment and having its inlet connected to an outlet of said freezing evaporating means, means for returning evaporated refrigerant from said evaporating means to said liquefying means, said food compartment evaporating means including an upright plate having a series type refrigerant passage extending adjacent the periphery and provided with a liquid trapping accumulator chamber at the end of said peripheral passage, said plate also having a passage in its central portion connected to the outlet of said accumulator chamber, and a thermostatic cycling control means having a thermosensitive element in heat exchange relation with the portion of said plate adjacent the accumulator chamber of said upright plate for controlling the operation of said liquefying means.

(To Be Continued)

Government Contracts

ARMY

Hdqrs. Boston Army Base, Boston 10, Mass.
INSTALLATION OF AIR CONDITIONING Bldg. T-31, Fort Banks, Mass.—Job—IFB A1-19-128-56-18/ENG/—Bid Opening 19 March 56.
Mobile District, Corps of Engineers, P. O. Box 1169, Mobile, Ala.
AIR CONDITIONING SYSTEM for Research and Development Eng Bldg. at Redstone Arsenal, Huntsville, Ala.—Job—IFB ENG-01-076-56-62—Bid Opening 20 March 56.

AIR FORCE

Procurement and Contracting Office, Ardmore Air Force Base, Okla.
AIR CONDITIONING of Training aids building, Ardmore Air Force Base, Okla.—Job—IFB 34-610-58-30 "B"—Bid Opening 6 March 56.
Base Procurement Office, Attention: Construction Division, Eglin Air Force Base, Fla.
ALTERATION AND AIR CONDITIONING OF NCO OPEN MESS at Eglin Air Force Base, Fla.—Job—IFB 08-603-439 B—Bid Opening 7 March 56.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 5, 575 U. S. Courthouse, 219 South Clark St., Chicago, Ill.
Following Items are procured under IFB CHD-1083—Bid Opening 13 March 56.
REFRIGERATORS, Fed. Spec. AA-R-211C and amend. 1, 24 ea.—CABINET, LOW TEMPERATURE, 1 ea.

CONTRACTS AWARDED

Bureau of Ships, Washington, D. C.
Water chillers—13.1 tons for mechanical cooling. Contract NObs-68006 (Inv. No. 549-93Q)—24 ea.—$31,002—Carrier Corp., 385 Madison Ave., New York 17, N. Y.

For more information about products advertised on this page use Information Center, page 20.

Rochester Builds New Plant

ROCHESTER, N. Y.—Rochester Mfg. Co. has announced the establishment of a new plant here for the production of oil burner tank gauges and other liquid level gauges.

The new facility, to be known as plant #3, will be capable of producing over 2,200 liquid level gauges per day when completed, according to Clark L. Hastings, vice president. It will be under the management of Stephen Royka, who has been with the company more than a quarter-century.

Armstrong Offers 5-Ton Air-Cooled Conditioners Made 'So Dealer Has Least Difficulty Installing'

COLUMBUS, Ohio — Five-ton air-cooled summer air conditioners for use in a wide range of commercial and large residential applications are now in production at Armstrong Furnace Co., the firm announced recently.

The new air conditioner is constructed "so that the dealer has the least possible difficulty in installing the unit," the company said.

As in Armstrong's 2 and 3-ton units, the 5-ton condensing unit, in its rust-proof aluminized steel cabinet, is installed outside the building.

Both evaporator and condensing units are shipped assembled. The condensing unit carries a complete charge of liquid refrigerant.

The blowers in the condenser, there are two, are 13 in. full width apiece. With their ⅓-hp. motors, they are capable of delivering 5,000 c.f.m. across the condenser coil, according to Armstrong.

The unit is being offered in 230-volt, single-phase, and 208-220-volt three phase. Both single and three phase have double overload protection for the compressor.

"The only electrical connections the installing dealer must make outside the building are his power leads to the compressor contactor and his low voltage wires to the compressor contactor solenoid, it was said.

"Inside the building he connects up the evaporator blower and the thermostat, and his electrical work is completed. The dealer does not have to run 115-volt wiring from the inside of the building to the condenser outside, just 24 volts. All other wiring is done at the factory.

"After running his wiring the dealer simply connects his suction and refrigerant lines, the same manner as with the 2 and 3-ton jobs and, outside of any ductwork, his job is done.

"At the present time R5, R8, and R9 evaporator sections are available. The R5 is the vertical independent evaporator containing its own 13-in. squirrel cage blower. It may be installed upright beside the basement furnace and, with minor duct changes, may use the same air distribution system.

"The R9 horizontal independent evaporator unit is simply a modification of the R5 for horizontal use.

"The R9 type of evaporator is especially useful as a suspended space cooler and should find its best market where there is no central heating system or where warm air heating is not being used.

"The R8 is a horizontal flow evaporator unit for use with any good forced air heating system. The R8 must be installed in the plenum before any distribution pipes are taken off. R8 design is especially suited for use with a horizontal furnace although it may be installed with other models as well.

"The filters and blower of the furnace must be used with the R8, but these are part of the R5 and R9. Both have as standard equipment 13-in. squirrel cage blowers with ½-hp. motors, which will deliver 2,000 c.f.m.

"The condensing unit of the 5-ton is very similar to the 2 and 3-ton Armstrong air-cooled units except for over-all size."

Hotel To Be Cooled

GREENSBORO, N. C.—Walter A. Stansbury, president-manager of Hotel Goldsboro, announced that the hotel has let contracts for a central air conditioning unit to serve the entire building.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

REFRIGERATION ENGINEER—M. E. graduate with 8 years' experience in testing, development and application of refrigeration and air conditioning products. Desire responsible position in design or application engineering. BOX A5479, Air Conditioning & Refrigeration News.

SERVICE MANAGER or construction superintendent available on short notice. Know refrigeration, air conditioning, wet and dry heat electric, sheet metal and controls. Experienced on heavy equipment, installed approximately 3,000 tons air conditioning in past four years. BOX A5480, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

OPPORTUNITY FOR manufacturers' representative: To increase your earnings, sell a full line of freezers, beverage coolers, display cases, dual temperature reachins and walkins. We manufacture a quality line to meet competition. Territories now available, write HOWARD REFRIGERATOR CO., INC., 4745 Worth Street, Philadelphia 24, Pa.

FIELD SERVICE engineer required by food store fixture manufacturer. Must be free to travel, with 10 or more years' experience in commercial refrigeration and electricity necessary. Salary, expenses, life insurance, hospitalization insurance and other benefits. 30 to 40 years of age. Willing to move when the need arises. This company is growing and expanding its operation every year. Send photo and full facts regarding work experience, age, family status, etc. Reply to BOX A5450, Air Conditioning & Refrigeration News.

FACTORY AGENTS and representatives wanted immediately for established competitive Midwest manufacturer of commercial refrigeration equipment and waterless residential air conditioning units. Territories open for agents due to changed sales policy and company expansion. Liberal commission. Give full information first reply. BOX A5472, Air Conditioning & Refrigeration News.

FIELD SALES managers—A leading manufacturer of residential air conditioning and heating equipment has several openings for experienced men due to major expansion. Address reply to BOX A5473, Air Conditioning & Refrigeration News.

FIELD ENGINEERS—A leading manufacturer of residential air conditioning and heating equipment has several openings for experienced men due to major expansion. Address reply to BOX A5474, Air Conditioning & Refrigeration News.

APPLICATION ENGINEERS — Home Office: A leading manufacturer of residential air conditioning and heating equipment has several openings for experienced men due to major expansion. Address reply to BOX A5475, Air Conditioning & Refrigeration News.

ONE OF Florida's top air conditioning contractors with leading brand name merchandise needs general manager to help operate the business, supervise heads of engineering, installation, sheet metal and service departments, and salesmen and sales programs. Excellent salary for right man. All replies in confidence. BOX A5476, Air Conditioning & Refrigeration News.

AIR CONDITIONING sales engineer: Opportunity for sales engineer to plan, develop, and administer residential air conditioning sales program for a leading heating manufacturer in Southern California. Ability to conduct and evaluate field studies, market research, and application surveys essential. BOX A5477, Air Conditioning & Refrigeration News.

RESIDENTIAL HEATING and air conditioning appliance design engineers leading national furnace manufacturer in Southern California seeking design engineers to keep pace with growth. Experience in residential heating equipment essential. Air conditioning knowledge not essential, but real opportunity for men with this experience. Openings at several levels. Excellent opportunity for men who can grow with job. BOX A5478, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

URGENTLY REQUIRE several '54, '55, or '56 window air conditioners. Must be priced right for volume purchaser. ASSOCIATED MECHANICAL SERVICES, 2446 University Avenue, St. Paul, Minnesota.

EQUIPMENT FOR SALE

NEW IMPROVED Kesco automatic condensate water disposal pumps, for air conditioners, ice-cube bins and drinking fountains, featuring a 9 in. high 3 gallon welded heavy steel hot dipped galvanized tank, with 2 gallon emergency reservoir; ¾ pipe inlet 1½ inches from floor. 4 inches water in tank starts pump. At your local wholesaler.
MT. VERNON, Eastern Supply, 521 East Third Street
NEW YORK, Abco Refrigeration, 1615 Second Avenue
WHITE PLAINS, County Seat, 111 Central Avenue.

7 — GRILLERS — ELECTRIC — Hotpoint. Ideal for restaurants or cafeterias. In original crates. Console model 4—12" wide and 3—36" wide 220 v. Will sacrifice best offer takes. DANIEL PICA, 3407 W. Ogden Ave. Chicago 23, Ill. Lawndale 1-1077.

AIR CONDITIONING value: 2 h.p. hermetic compressor F-12 230V. 1/phase HD200. 2 h.p. air cond. evaporator 23½" L x 16" H x 3½" W. 2 h.p. air cond. condenser 24" L x 24" H x 4½" W. Also included 2 ton F-12 T. X. Valve & dual pressure safety cutout switch. Complete matched component kit as described $179.50. FREIGHT PREPAID anywhere in the continental U. S. A. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

BUSINESS OPPORTUNITIES

FOR SALE, old established commercial refrigeration and air conditioning sales and service business in Pontiac, Mich. Unlimited opportunity for go-getter. Well established service business—National commercial sales franchises. Two trucks. Low overhead. Write giving brief personal background and financial references. PONTIAC REFRIGERATION, 6387 Hatchery Road, Pontiac, Michigan.

MISCELLANEOUS

FOR SALE, 20,000 sheets Armstrong Cork Board 2 x 12 x 36, in original cartons at $.70 per sheet in lots of 1,000 or over. Gore H. Beall, Executor, JOHN K. WENZEL, ESTATE, Wheeling, West Virginia.

"SEALED UNIT Rebuilding-Basic Tools & Methods"—an instructive copyrighted manual giving complete details on economically equipping your shop to handle hermetic rebuilding. Exclusive trade secrets unavailable elsewhere. Mail postcard for descriptive folder. H. W. CUSTER, P. O. Box 98, Center Line, Michigan.

15 NEMA Firms Sell 3,681,068 Refrigerators, First 11 Months

Summary for November and First 11 Months, 1955
Complete Electric Household Refrigerators Only—Sales by Sizes—Units

NOVEMBER (14 Companies)

Sizes	Domestic	Canadian	Foreign	Total
1. 3 cu. ft. (3.4 & under)	....	....	....	....
2. 4 cu. ft. (3.5 to 4.4)	513	....	....	513
3. 5 cu. ft. (4.5 to 5.4)	33	....	13	46
4. 6 cu. ft. (5.5 to 6.4)	533	....	163	696
5. 7 cu. ft. (6.5 to 7.4)	2,580	183	1,039	3,802
6. 8 cu. ft. (7.5 to 8.4)	43,499	450	8,118	52,067
7. 9 cu. ft. (8.5 to 9.4)	8,694	903	1,122	10,719
8. 10 cu. ft. (9.5 to 10.4)	34,883	205	1,971	37,059
9. 11 cu. ft. (10.5 to 11.4)	33,147	42	1,576	34,765
10. 12 cu. ft. (11.5 to 12.4)	71,727	64	1,217	73,008
11. 13 cu. ft. (12.5 & over)	*21,755	*16	*372	*22,111
12. Total	**217,364**	**1,831**	**15,591**	**234,786**
Refrigerators Having Two Exterior Doors (All Sizes Included In Above)	**52,462**	**43**	**663**	**53,168**

FIRST 11 MONTHS (14-15 Companies)

Sizes	Domestic	Canadian	Foreign	Total
1. 3 cu. ft. (3.4 & under)	....	....	....	....
2. 4 cu. ft. (3.5 to 4.4)	15,683	....	608	16,291
3. 5 cu. ft. (4.5 to 5.4)	434	146	106	686
4. 6 cu. ft. (5.5 to 6.4)	21,118	1	5,241	26,360
5. 7 cu. ft. (6.5 to 7.4)	98,996	6,679	16,043	121,718
6. 8 cu. ft. (7.5 to 8.4)	705,704	9,654	96,246	811,604
7. 9 cu. ft. (8.5 to 9.4)	405,643	12,020	28,772	446,435
8. 10 cu. ft. (9.5 to 10.4)	550,737	17,639	19,267	587,643
9. 11 cu. ft. (10.5 to 11.4)	639,050	7,542	33,397	679,989
10. 12 cu. ft. (11.5 to 12.4)	690,526	6,432	13,032	709,990
11. 13 cu. ft. (12.5 & over)	*270,632	*2,199	*7,521	*280,352
12. Total	**3,398,523**	**62,312**	**220,233**	**3,681,068**
Refrigerators Having Two Exterior Doors (All Sizes Included In Above)	**609,242**	**5,992**	**13,426**	**628,660**

*Combined to prevent possible disclosure.

Participating companies: Admiral Corp.; Crosley & Bendix Home Appliances Div., Avco Mfg. Corp.; Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., a division of General Electric Co.; Kelvinator Div., American Motors Corp.; Norge Div., Borg-Warner Corp.; Philco Corp., Appliance Div.; Quicfrez, Inc.; Seeger Refrigerator Co.; Servel, Inc.; Westinghouse Electric Corp.; International Harvester Co. (out 10-1-55).

21 NEMA Firms Sell 680,428 Freezers, First 11 Mos. of '55

Summary for November and First 11 Months, 1955
Electric Farm and Home Freezers—Complete—Sales by Sizes—Units

Farm and home freezers complete with high and low side and cabinet, where 50% or more of the net cabinet capacity is designed for the freezing and/or storage of frozen foods.

NOVEMBER (21 Companies)

Sizes	Domestic	Canadian	Foreign	Total
1. 6 cu. ft. (6.4 & under)				
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 7 & 8 cu. ft. (6.5 to 8.4)				
Chest Models	*2,724	*82	*116	*2,922
3. 9 & 10 cu. ft. (8.5 to 10.4)				
Chest Models	1,366	31	266	1,663
Upright Models	‡	‡	‡	‡
4. 11 & 12 cu. ft. (10.5 to 12.4)				
Chest Models	3,200	102	306	3,608
Upright Models	‡4,323	‡83	‡141	‡4,547
5. 13 & 14 cu. ft. (12.5 to 14.4)				
Chest Models	3,549	258	144	3,951
Upright Models	5,349	17	44	5,410
6. 15 cu. ft. (14.5 to 15.4)				
Chest Models	5,106	208	30	5,344
Upright Models	§	§	§	§
7. 16 & 17 cu. ft. (15.5 to 17.4)				
Chest Models	2,749	3	202	2,954
Upright Models	§3,686	§71	§11	§3,768
8. 18 & 19 cu. ft. (17.5 to 19.4)				
Chest Models	2,604	50	35	2,689
Upright Models	2,432	10	9	2,451
9. 20 & 21 cu. ft. (19.5 to 21.4)				
Chest Models	2,677	49	3	2,729
Upright Models	¶	¶	¶	¶
10. 22 cu. ft. (21.5 & over)				
Chest Models	360	....	....	360
Upright Models	¶1,739	¶....	¶....	¶1,739
Total Chest Models	**24,335**	**783**	**1,162**	**26,230**
Total Upright Models	**17,739**	**181**	**213**	**18,133**
Total All Models	**42,074**	**964**	**1,315**	**44,353**

FIRST 11 MONTHS, 1955

Sizes	Domestic	Canadian	Foreign	Total
1. 6 cu. ft. (6.4 & under)				
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 7 & 8 cu. ft. (6.5 to 8.4)				
Chest Models	*33,109	*1,513	*2,372	*36,994
Upright Models	†4,584	†69	†128	†4,781
3. 9 & 10 cu. ft. (8.5 to 10.4)				
Chest Models	19,114	760	1,127	21,001
Upright Models	‡	‡	‡	‡
4. 11 & 12 cu. ft. (10.5 to 12.4)				
Chest Models	49,837	1,100	1,450	52,387
Upright Models	‡82,198	‡2,032	‡1,764	‡85,994
5. 13 & 14 cu. ft. (12.5 to 14.4)				
Chest Models	60,771	3,364	1,343	65,478
Upright Models	61,352	772	1,856	63,980
6. 15 cu. ft. (14.5 to 15.4)				
Chest Models	57,694	1,713	528	59,935
Upright Models	§	§	§	§
7. 16 & 17 cu. ft. (15.5 to 17.4)				
Chest Models	48,461	952	347	49,760
Upright Models	§73,763	§1,253	§442	§75,458
8. 18 & 19 cu. ft. (17.5 to 19.4)				
Chest Models	41,678	1,185	648	43,511
Upright Models	43,583	347	441	44,371
9. 20 & 21 cu. ft. (19.5 to 21.4)				
Chest Models	43,972	1,997	131	46,100
Upright Models	¶	¶	¶	¶
10. 22 cu. ft. (21.5 & over)				
Chest Models	6,020	51	36	6,107
Upright Models	¶24,393	¶17	¶161	¶24,571
Total Chest Models	**360,656**	**12,635**	**7,982**	**381,273**
Total Upright Models	**289,873**	**4,490**	**4,792**	**299,155**
Total All Models	**650,529**	**17,125**	**12,774**	**680,428**

Participating companies: Admiral Corp.; Ben-Hur Mfg. Co.; Carrier Corp.; Crosley & Bendix Home Appliances Div., Avco Mfg. Corp.; Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., division of General Electric Co.; Kelvinator Div., American Motors Corp.; Maytag Co., The; Norge Div., Borg-Warner Corp.; Philco Corp., Appliance Div.; Quicfrez, Inc.; Revco, Inc.; Seeger Refrigerator Co.; Servel, Inc.; Sub-Zero Freezer Co., Inc.; Victor Products Corp.; Westinghouse Electric Corp.; Wilson Refrigeration, Inc.; International Harvester Co. (out 10-1-55).

Bohn Buys Betz--

(Concluded from Page 1, Col. 5)

types of coils for the refrigeration field. In 1953 the company was in full production on a line of heat exchanger equipment for the air conditioning field, it was noted.

With the anticipated increase in the market for heat transfer equipment for air conditioning and refrigeration, it is expected that the new operation will be expanded considerably, company officials declared.

Bohn presently operates nine plants in Michigan and Indiana. In addition, during the past year it has acquired controlling interest in Reo Motors, Inc., in Lansing, Mich., and presently owns one-third interest in Diamond T Motors.

Indication of Bohn's improved operations is evidenced by the report of 1955 earnings of $4.17 a share announced last week, the best operating profit for the firm in several years.

Coleman Ups Newton To Head All Design, Research Activities

WICHITA, Kan. — Alwin B. Newton, Coleman Co. chief design engineer and member of the board of directors, has been named vice president in charge of all phases of the company's design and research activities, it has been announced by Sheldon Coleman, president and general manager.

A. B. Newton

Newton succeeds Boyd W. Tullis, who retired Dec. 31.

Although Tullis has reached retirement age, he will remain with the company as special assistant to the president.

Tork Sets Up Dept. To Supply Controls For Refrigeration

MOUNT VERNON, N. Y.— Tork Clock Co., Inc. has set up a department for the exclusive handling of time switch and automatic control problems in the refrigeration industry, it announced recently by Cyril J. White, president.

He said the department was established "in order to supply the needs of the refrigeration industry in both equipment and consultation."

Henry F. Zuba, Tork vice president, was named by White to head the new "Refrigeration Control" department. Michael Bizzoco, formerly in charge of the production of special time switch equipment, was appointed as Zuba's assistant. Bizzoco will work on the development of units for commercial defrost.

Commenting on formation of the department, White said:

"Today's trend toward fast, short, and complex defrost cycles requires fine adjustability with rugged, dependable design. We at Tork have felt this evolution in the commercial defrost problem, and have worked to develop new units to cope with it.

"Some are supplied exclusively to refrigeration manufacturers, engineered to their specific requirements and design. Others are standard models designed for the needs of commercial refrigeration equipment but for installation in the field by local electrical and refrigeration contractors."

Refrigeration engineers and manufacturers of commercial refrigeration and defrost equipment are invited to consult with Zuba on individual problems or for information.

G-E Names Hirschbach--

(Concluded from Page 1, Col. 5)

tive; with Gibbs & Hill, New York consulting engineer; and from 1950 to 1953 as an officer of Controlaire, Inc., G-E heating and cooling distributor of Fort Lee, N. J.

He had served with General Electric from 1947 to 1949 and returned to G-E as manager of HHC builder sales in 1953.

Hirschbach studied at Lehigh university, served overseas with the 1169th Engineer Utility Detachment, and had charge of engineering facilities for the Big Four Conference at Potsdam in 1945.

He is the author of a number of papers on heating and air conditioning. His most recent effort has been to develop a realistic standard for air conditioning ratings within the industry, according to the firm's announcement.

5 German Refrigeration, Air Conditioning Chiefs Inspect Copeland Plant

SIDNEY, Ohio—Copeland Refrigeration Corp. was host Feb. 10 to five top officials of the German refrigeration and air conditioning industry.

The group is touring the United States on an inspection trip of the leading manufacturing facilities in American industries.

A lengthy inspection of the Copeland compressor manufacturing plant was followed by luncheon and a mutual discussion with Copeland officials of the industry problems and methods found both in Europe and America.

Particular emphasis was placed on the planning, manufacture, marketing, and service of all types of refrigeration products in a cooperative effort for the group to attain a comprehensive picture of American manufacturing methods and operations.

The visit to Copeland, as well as to many other leading manufacturers, was arranged by the International Cooperation Administration, as part of the overall American industrial effort to share our advanced methods and techniques with the rest of the free world.

REGIONAL MANAGER

We are a large manufacturer of commercial refrigeration and market fixtures. Our increased volume has forced us to obtain additional plant facilities in the Midwest. To further our expanding operations, we require the services of another regional manager under 50 years of age and free to travel. Must have proven managerial ability, capable of supervising salesmen and the varied operations of the region. Our man must have a sound background of supermarket layout, planning, and selling refrigerated market fixtures. To a qualified man we offer a most lucrative proposition, based on a salary plus commissions on the regional volume, plus all travel expenses and company benefits. Please give complete details of your experience, family status, etc. in first letter. Personal interviews will be arranged.

BOX A5464, Air Conditioning & Refrigeration News.

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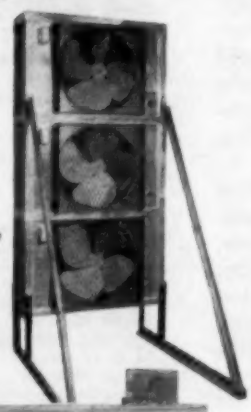

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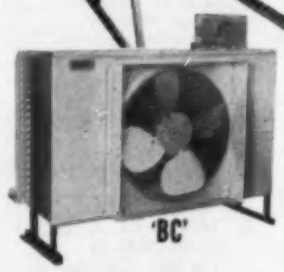

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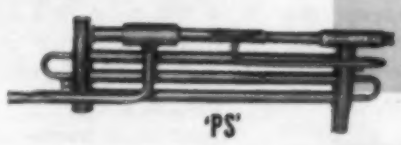

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Wherever water is scarce, expensive, or contains excessive impurities . . . or wherever disposal facilities are inadequate . . . a Bush water-saver can solve the problem. Whatever your need or preference in water-saving equipment, there's a Bush unit to meet it.

All Bush water-savers incorporate the most advanced engineering design . . . feature rugged, top quality construction.

For single-source simplicity, select BUSH. And for capable engineering or application assistance, call on the experienced Bush sales engineer in your area.

'CDT' COPPER DECK COOLING TOWERS

All copper decking cannot rust or rot. Sectional construction permits arrangement with blower fan or propeller fan . . . permits substitution of Inner-Fin coil for operation as evaporative condenser.

'PFC' PROPELLER-FAN CONDENSERS

Permit condensing of refrigerant *without use of water*. Two basic models, 2.2 Tons and 3.3 Tons, can be combined by mounting in banks to obtain any desired tonnage.

'IEC' INNER-FIN EVAP CONDENSERS

Inner-Fin coil construction, *a Bush exclusive*, permits compactness of construction impossible in other units. Can be operated DRY where conditions warrant. Can be arranged with blower fan or propeller fan . . . converted to cooling tower by substitution of copper decking for condenser coil.

'BC' BLOWER CONDENSERS

For *waterless* condensing. Available in capacities up to 20 Tons, units feature low noise level . . . *quiet* operation. Famed Inner-Fin coil construction, rugged all-steel cases with durable rust-resistant finish. Easy to install; available arranged with blower fan or propeller fan.

'PS' PRESSURE STABILIZERS

Automatically maintain satisfactory head pressure when air cooled condensers operate outside in low ambient temperatures.

Request catalogs containing complete specifications on units shown.

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